PRELIMINARY REPORT ON EXPEDITION EASTROPIC

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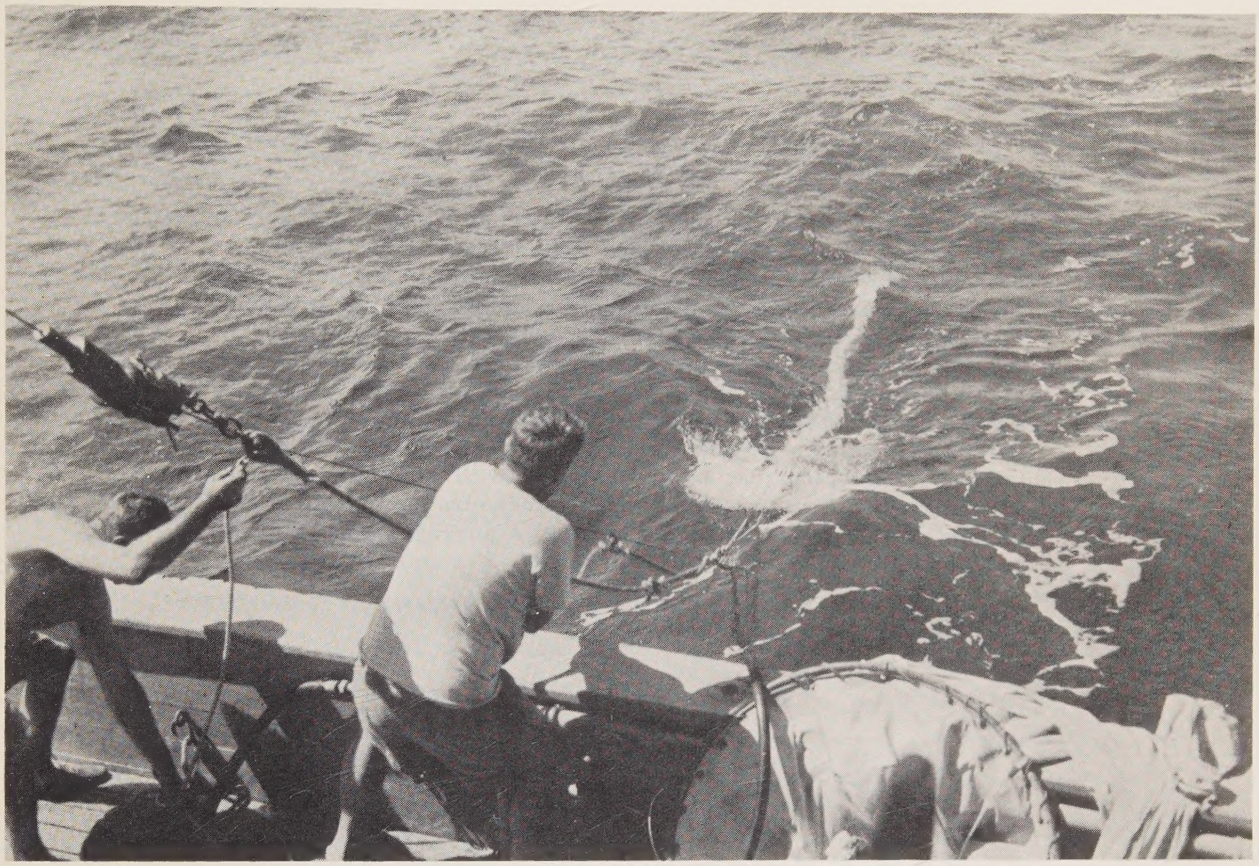

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ABSTRACT

This report describes the methods used and the results obtained, without analysis, in observations made aboard the research vessel Hugh M. Smith on the EASTROPIC expedition, a cooperative oceanographic survey of the central and eastern tropical Pacific, September-December 1955. Information was obtained on east-west gradients in temperature, salinity, phosphate, zooplankton, and forage-fish abundance. By means of closing-net hauls a special study was made of the vertical distribution of zooplankton. In collaboration with the University of Hawaii, carbon fixation and chlorophyll measurements were made on the east-to-west leg of the cruise. A survey of tuna baitfish was conducted in the Marquesas Islands.

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By

Joseph E. King, Thomas S. Austin, and Maxwell S. Doty

The EASTROPIC Expedition was a cooperative oceanographic survey of the central and eastern tropical Pacific conducted during the period September-December 1955. Five research vessels took part in the survey, representing five agencies: Scripps Institution of Oceanography, Inter-American Tropical Tuna Commission, California Department of Fish and Game, Pacific Oceanic Fishery Investigations (POFI) of the U. S. Fish and Wildlife Service, and the Peruvian Navy.

Personnel of the Scripps Institution of Oceanography and the Inter-American Tropical Tuna Commission aboard the Scripps' vessels Spencer F. Baird and Horizon operated southward from San Diego as far as northern Peru and from the Central American Coast westward to about 120°W. longitude. These vessels studied the currents and productivity of the Equatorial Countercurrent, the Equatorial Undercurrent, and the region along the northern boundary of the Peru Current between Ecuador and the Galapagos Islands. The Peruvian vessel B. S. P. Bondy occupied hydrographic stations and made bathythermograph observations along the latter current boundary and then worked southward into the Peru Current itself. The California Department of Fish and Game vessel N. B. Scofield conducted longline fishing in all three current systems.

As POFI's participation in EASTROPIC, the Hugh M. Smith (cruise 31) completed an 86-day, 14,000-mile cruise (fig. 1), obtaining information on east-west gradients in temperature, salinity, phosphate, zooplankton, and forage fish abundance along the northern boundary of the Equatorial Countercurrent and along the Equator between 110°W. and 156°W. longitude. In collaboration with the University of Hawaii, carbon fixation and chlorophyll measurements were made on the westbound leg of the cruise. A survey of tuna baitfish was conducted in the Marquesas Islands.

The purpose of this report is to list the results -- without analysis -- obtained on the cruise of the Hugh M. Smith, in order to make these data available, without further delay, for the joint benefit and use of all collaborating scientists and other agencies interested in the oceanography of the central and eastern Pacific. More definitive reports will follow.

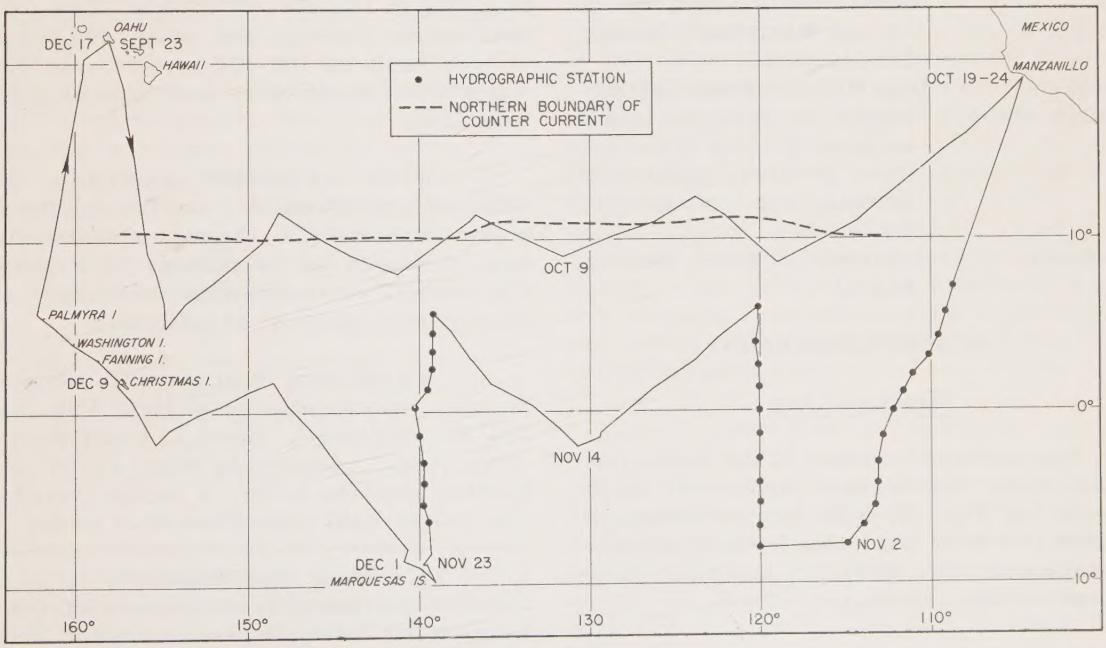

Figure 1.--Track of the Hugh M. Smith (cruise 31) on the EASTROPIC Expedition, September 23 to December 17, 1955.

FIELD PARTY PERSONNEL

Capt. Barnes Collinson	- Master
Joseph E. King	- Field Party Chief
Gunter R. Seckel	- Oceanographer
Robert M. Kodama	- Physical Science Aid
Roy V. Henrickson	- Fishery Aid
Robert L. Pyle	- Collaborator (University of Hawaii)

ITINERARY OF THE CRUISE

September 23	- Departed Pearl Harbor, Hawaii.
September 26	- Started plankton and trawl stations at 12°N., 156°W.
October 16	- Suspended station activities at 12°N., 112°W. and headed for Manzanillo, Mexico.
October 20-23	- Anchored in Manzanillo harbor, taking on fuel, fresh water, and other stores.
October 24	- Departed Manzanillo.
October 27	- Resumed plankton and trawl work and started hydrographic and C^{14} stations.
November 23	- Arrived Nuku Hiva, Marquesas Islands.
November 24-30	- Conducted a bait survey, surface trolling, and scouting for tuna in the Marquesas Islands.
December 1	- Departed the Marquesas Islands to resume plankton, trawl, and C^{14} stations.
December 9	- Arrived Christmas Island, Line Islands.
December 10	- Departed Christmas Island.
December 12	- Stopped at Palmyra Island to pick up four persons from a vessel which had recently run aground off the island.
December 17	- Returned to Pearl Harbor, Hawaii.

ACCOMPLISHMENTS

Eastbound Leg

The northern boundary of the Equatorial Countercurrent was crossed eight times on the eastbound leg (fig. 1), with bathythermograph lowerings at 2-hour intervals. Surface samples were collected twice daily for inorganic phosphate and salinity determinations.

A total of 42 closing-net hauls with sampling at 3 levels, 42 standard 200-meter oblique hauls, 8 oblique hauls between 200 and 300 meters, and 21 midwater trawl hauls were completed during this portion of the cruise.

A GEK measurement of surface currents was made 4 times daily running east of 156°W. longitude, for a total of 48 fixes until the instrument became inoperative by failure of the suppressor (condenser) assembly.

At the beginning of the cruise some excellent records of the evening rise in the scattering layer were obtained with the EDO depth sounder. The instrument soon went out of commission, however, and could not be repaired at sea.

Westbound Leg

Thirty-five hydrographic stations were completed on the westbound portion of the cruise with Nansen bottle casts to either 1,000 or 1,200 meters. The oxygen and most of the inorganic phosphate determinations were made at sea; some of the samples were frozen for later phosphate analysis in the laboratory. Water samples were retained for salinity determinations ashore. Bathythermograph lowerings were made on station and at 2-hour intervals between stations. In addition, surface phosphate and salinity samples were taken on runs without full hydrographic stations.

A total of 72 closing-net hauls with sampling at 3 levels, 80 oblique, open-net hauls between the surface and about 200 meters, 8 oblique hauls at 200-300 meters, and 32 midwater trawl hauls were completed on the westbound leg.

With equipment provided by the University of Hawaii [1/], and through the efforts of Mr. Robert Pyle, the rate of carbon fixation was measured at 76 stations (438 samples). Chlorophyll determinations were made either once or twice daily at 44 stations.

A prominent front with 4°F. temperature change was encountered at about 4°N. latitude, 120°W. longitude. About 15 hours were spent in the frontal area during which 29 BT casts, 7 surface plankton hauls, 1 pelagic trawl haul, and 2 night-light collections were made.

[1/] This work was supported in part by financial assistance from contract AT-(04-3)-15 between the Botany Department of the University of Hawaii and the U. S. Atomic Energy Commission.

Six days were spent in the Marquesas scouting for bait or in running between islands maintaining a lookout for tuna schools and with surface trolling lines out. Only 4 schools of tuna (2 skipjack and 2 unidentified) were sighted close to the islands.

Four night-light collections were obtained while at anchor in the Marquesas Islands.

A small sardine, Harengula vittata, which occurs in the bays and along the coasts of the Marquesas Islands apparently at times in marked abundance, was found to be scarce during the period of our survey. With considerable effort about 130 buckets of these fish were obtained which we hoped to bring back for stocking in Hawaiian waters. Although the majority were lost at sea during rough weather, about 20 buckets of the sardines survived and were released along the leeward coast of Oahu.

General

A total of 746 bathythermograph lowerings were made during the cruise.

Water color (Forel scale) and Secchi disc visibility measurements were obtained at most daytime plankton stations.

Standard marine weather observations were made 4 times daily, encoded, and transmitted whenever possible to the Weather Observer, San Francisco.

Morphometric measurements were performed on 5 yellowfin and 2 skipjack caught by surface trolling.

The wheel watch maintained a lookout for tuna schools and bird flocks during all daylight hours that the vessel was underway; 45 tuna schools were sighted, most of which were thought to be skipjack. Surface trolling during daylight hours yielded poor results; the total catch for the cruise consisted of 13 dolphin, 5 wahoo, 2 skipjack, and 2 black skipjack.

In addition to the regular wheel watch, a 1-hour bird watch was maintained (by King) each day at 1600-1700 throughout the cruise; on the westbound leg a similar watch was carried out by Pyle) each morning at 0600-0700. All birds sighted were counted and identified as accurately as was possible.

The activities conducted at each station and the data resulting from the various biological and oceanographic observations are listed in tables 2-12 which are assembled immediately following the text of this report. Figures appearing at the end of the report include the temperature-depth sections drawn from the BT data; the station curves for each of the oceanographic stations; and the vertical sections, surface to 500 m., for salinity, thermosteric anomaly, oxygen and phosphate, and geopotential topography.

FIELD PROCEDURES

In this report we shall give a rather complete description of equipment and techniques employed in EASTROPIC since some of the methods used were new to POFI cruises and not described in previous publications.

Zooplankton

Except on the runs to and from Honolulu and Manzanillo, two plankton stations were occupied each day, one between 0900 and 1100 and the other between 2100 and 2300 hours. All hauls were made with 1-meter (mouth diameter) nets of 30XXX silk grit gauze (apertures 0.65 mm. in width), using a wire rope cable of 1/4-inch diameter.

Four types of hauls were employed. A closing-net haul (1) with 3 nets sampling simultaneously at 3 levels together with a single, open-net, oblique haul (2) to about 200 meters' depth, were carried out routinely at each morning and night station. At 16 of the morning stations there was an additional haul (3) with a closing net sampling obliquely between about 200 and 300 meters. A short series of 20-minute, surface hauls (4) were taken in conjunction with an oceanographic "front." Except in this latter series, on each of the hauls the nets were operating for approximately 30 minutes. The amount of water strained on each haul was measured by a flowmeter suspended in the mouth of the net. The flowmeters were calibrated before and after the cruise. The sampling depth was recorded on 35 hauls by means of a depth gauge of the type described by Miller, et al. (1953). The number of quantitative samples obtained and the number of successful hauls completed for each type of haul are shown in table 1.

200-Meter Oblique Hauls

The nets used and the method of hauling have been described by King and Demond (1953). A depth gauge employed on 12 hauls indicated that the actual depth reached exceeded the 200-meter calculated depth, assuming that the towing wire described a straight line, by about 25 percent. The depths shown in table 3 are the corrected depths which for the 115 successful hauls averaged 231.4 meters.

Table 1.--Number of plankton samples obtained with different types of hauls on the Hugh M. Smith EASTROPIC cruise

	3-net hauls			0-200 m. oblique	200-300 m. oblique	Surface	Total
	Upper	Middle	Lower				
Possible total	114	114	114	122	16	7	487
No sample obtained	1	2	26	1	2	0	32
Sample not quantitative	4	11	6	6	1	0	28
Quantitative samples	109	101	82	115	13	7	427
Percent quantitative samples of possible total	96	86	72	94	81	100	88

3-Net Hauls

On EASTROPIC the multiple-net haul consisted of 1 open net and 2 closing nets, each operating obliquely within a rather narrow depth range. The initial objective was to divide the depth sampled by the "standard" 0-200 m. haul into 3 parts and thus obtain a more detailed picture of the vertical distribution of the zooplankton, diurnally and in respect to the thermal structure. The plan was to have the 3 nets sample obliquely in the depth ranges 0-60 m., 70-130 m., and 140-200 m. They were attached to the towing wire at intervals in accordance with an anticipated wire angle and with the assumption that during the haul the towing wire described an essentially straight line in the water. We knew that the latter assumption was not entirely correct but, prior to the cruise, exact information was lacking on the curvature of the towing wire with 3 nets attached. By means of the depth gauge we learned that the towing wire curved downward so that the lower nets fished deeper than assumed from the wire angle measured at the surface. Utilizing the data obtained with the depth gauge on 11 hauls on EASTROPIC, and with additional observations made on a later test cruise, correction factors were calculated for the upper and lower limits of each net. The corrected depths, given in table 3, show that, on the average, the upper net operated between the surface and 52 meters, the intermediate net between 66 and 134 meters, and the lower net between 147 and 272 meters.

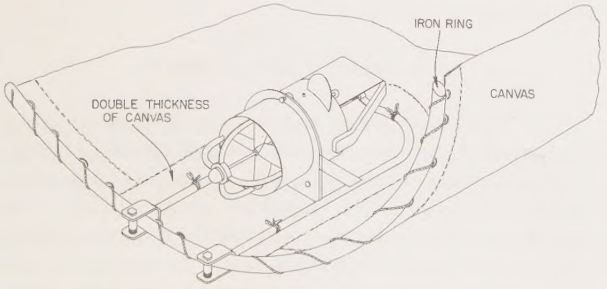

Figure 2.--Diagram of the flowmeter-mounting in the mouth of the closing net.

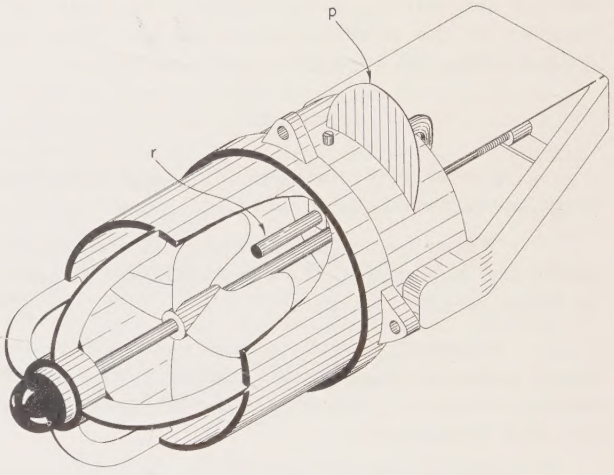

Figure 3.--Diagram of flowmeter showing the design of the propeller-blocking device (in cutaway section). p - pressure plate; r - propeller-blocking rod activated by water pressure on the plate (p).

The straining surface of the closing nets was similar to that of the open nets; they differed in certain other respects, however. Each closing net was essentially a standard net to the forward end of which was added a cylinder of 10-ounce canvas 44 inches in length. A pursing line encircled the net passing through brass rings attached to the outside of the canvas about 30 inches from the mouth of the net. The flowmeter was mounted off-center along the rim of the net (fig. 2) in such a manner that it did not interfere with the opening and closing of the net.

A mechanism was devised at the POFI laboratory for blocking the flowmeter blade when the net was closed (fig. 3). Repeated tests giving zero readings on the flowmeter when the net remained closed gave us confidence that the device was effective and reliable.

The releasing mechanism, system of bridle lines, and method of opening and closing the nets, were essentially as described by Leavitt (1935), with some modification by O. E. Sette, J. C. Marr, and E. H. Ahlstrom. In figure 4 we have attempted to illustrate the method of rigging the 2 lower nets and the opening and closing operation. Part A shows the arrangement of bridle lines leading to the release mechanism with the net closed while being lowered. In figure 4B the net is shown in open position after the first messenger (m_1) has triggered the primary release (r_1). In figure 4C the net has been closed following the action of the second messenger (m_2) on the secondary release (r_2). The bridle lines as shown in the figure were of convenient length for use on the Hugh M. Smith. The dimensions may be adjusted to suit the method of launching the nets, height of deck above water, etc. A 150-pound streamlined weight was attached to the end of the towing cable.

As the field party had not had previous experience with this type of multiple-net gear, some difficulties were experienced which resulted in the loss of a small percentage of the samples, and a few were judged of qualitative value only. The majority of the hauls, however, were accomplished satisfactorily. All samples of doubtful quantitative value have been omitted from table 3.

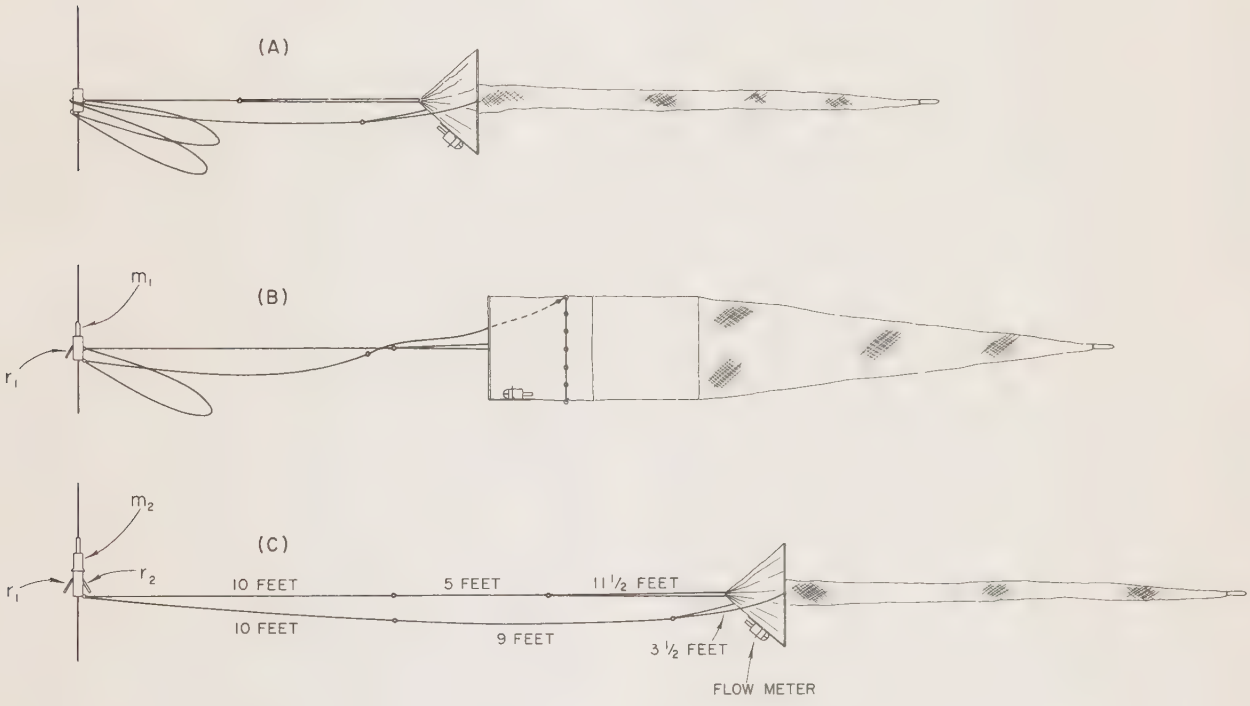

Figure 4.--Operation of the 1-meter closing nets showing the arrangement and dimensions of the bridle lines. A - net closed for lowering; B - net open for towing; C - net closed for raising; m_1 - first messenger; m_2 - second messenger; r_1 - primary release; r_2 - secondary release.

200-300 m. Hauls

In these "deep" hauls a single closing net was lowered closed to an estimated 200 meters' depth, opened, then lowered at a slow, uniform rate to an estimated 300 meters. It was then returned to about 200 meters, closed, and brought rapidly to the surface. As in the other methods of hauling, the wire angle and amount of wire-out were recorded at 2-minute intervals. By means of the depth gauge

employed on 12 hauls, we learned that the actual sampling depth exceeded the estimated depth by about 26 percent. It was calculated that, on the average, the net was fishing between 227 and 369 meters' depth.

Surface Hauls

At the "front," on stations 98-104, 7 shallow hauls were made with an open net. The first haul reached an estimated depth of 45 m. and the remainder 4 to 8 m.

Midwater Trawling

A 1-hour haul with an Isaacs-Kidd trawl of 10-foot mouth diameter was made at 53 stations, usually between 2000 and 2100 hours. The trawl net and diving vane were patterned after gear developed at the Scripps Institution of Oceanography (Devereaux and Winsett 1953), but with modifications to permit hauling at vessel speeds of 6 to 7 knots. The net was of nylon, 1 1/2-inch stretched mesh in the forward section, 3/4-inch mesh in the middle section, and 1/2-inch in the cod end. The cod end for about 6 feet of its length was lined with stramin.

Employing a 3/8-inch towing cable and an Clympic trawl cable meter recording in fathoms, the trawl was lowered rapidly until 450 fathoms of cable were paid out. The trawl was then retrieved at a slow, uniform speed of the winch. The paying-out required about 20 minutes and the hauling-in about 40 minutes. The wire angle and amount of wire-out were recorded at 3- to 5-minute intervals. With the total mount of wire-out, the wire angle at the surface was usually between 72° and 76°. By plotting the wire-out and wire angle measurements recorded during the haul, we obtained an estimate of the curvature of the towing wire and the maximum depth reached. At a vessel speed of 6-7 knots and with 450 fathoms (824 meters) of wire-out, the estimated maximum depth averaged about 350 meters.

Carbon Fixation Measurements

On EASTROPIC, water samples were collected at 76 stations from the surface and 20 meters for productivity measurements by the radioactive carbon (C^{14}) method. The method was introduced by Steemann Nielsen (1952) and involves the addition of the isotope as sodium carbonate to samples of sea water and then holding these samples in a water bath, some in the dark (dark bottles) and some under uniform conditions of light (light bottles) for a known period of time. Photosynthesis and other processes occurring in the samples during this period will utilize dissolved carbon dioxide and the carbonate ($CO_3^{=}$) and bicarbonate (HCO_3^{-}) ions in the sample including proportionally, that bearing C^{14}. Upon subsequent filtration the C^{14} fixed within the phytoplankton cells is retained on a filter while that still in solution is passed through. Knowing the ratio of C^{14} (as disintegrations per minute) to C^{12} at the start of illumination, and then measuring the increase in radioactivity of the cells, enables us to calculate the amount of both kinds of carbon fixed. The amount of carbon fixed in the light bottles after subtracting the amount fixed in the dark bottles is tabulated as net productivity. This is calculated in terms of milligrams of carbon fixed per unit of time per unit of volume.

Collection of Samples

A clean, plastic bucket was used in dipping samples from the surface. Three clean, 276-ml. glass-stoppered, pyrex bottles were filled from the bucket by simply pouring the sea water through a rinsed, plastic funnel. One bottle was covered with an opaque coating; the other two sample bottles were clear glass.

A 1-liter, weighted, plastic bottle was used to obtain the 20-m. sample. After the bottle was lowered to the desired depth, the rubber stopper was jerked free by means of an auxiliary line, allowed to fill, and then retrieved. Three sample bottles were filled directly from the sampler. Collections were made, as much as possible, away from parts of the vessel where there was any discharge (e.g. from bilge, heat exchangers, etc.).

Extensive laboratory and field tests conducted prior to the cruise by the University of Hawaii had shown that metal objects should not contact the sample water since such contact was found to reduce greatly the rate of carbon fixation. Also, the sample should not be subjected to rougher treatment (e.g. shaking) than necessary, since this also tended to reduce fixation.

Addition of Radioactive Sodium Carbonate Solution

The top of an ampoule containing an aliquot portion of the radioactive carbonate solution was broken off. A clean glass pipette, attached to an automatic delivery pipette and calibrated to deliver between 1 and 2 ml., was used to withdraw the contents. The solution was then released at the bottom of the filled sample bottle and the pipette rinsed with water

from about the middle of the bottle. A pipetteful of sample water was drawn from the top of the bottle and used to rinse the empty ampoule. The rinse water was then returned to the middle of the bottle and the pipette rinsed with water from the top of the bottle. The sample bottle was then stoppered.

Use of Illuminated Water Bath

Before placing the bottles in the water bath, the tops of the opaquely coated "dark" bottles were made light-tight by covering them with aluminum foil. The foil was checked each time for holes.

In the water bath (fig. 5) used on EASTROPIC the areas adjacent to the ends of the circular fluorescent tubes, where the wires are connected, were not illuminated; therefore, the light bottles were not placed in these portions of the chamber. This space was utilized for the dark bottles. When more samples were collected than would fit into the water bath, the dark bottles were placed in a bucket or sink filled with circulating sea water.

The water bath was supplied with circulating sea water in which the temperature varied less than 1°F. from that of the sea surface through which the ship was cruising. Illumination was maintained at 1,500- to 1,800-foot candles by Westinghouse 32-watt "cool white, circline," fluorescent tubes.

The samples were placed in the water bath immediately after inoculation with the radioactive carbon and remained in the water bath for 4 or 5 hours. During this time interval carbon fixation in the sample is approximately linear (Doty 1955). A longer period might be desirable, however, since the larger the amount of C^{14} incorporated in the cells, as fixed carbon, the shorter the period for counting to the desired statistical accuracy.

Filtration

After removing the bottles from the water bath, their contents were filtered through 15/16-inch Millipore "HA" filter discs mounted in Tracerlab E-8B filter holders. Filtration of an entire bottle of sample water, under suction from an aspirator, required only 3-5 minutes. After filtration the disc was "washed" by drawing through it about 20 ml. of 0.001/N HCl in 35 percent NaCl followed by about 30 ml. of filtered sea water.

The filter holder, upon completion of the filtering, was disassembled and the Millipore disc placed in one of a series of numbered holes cut in a circular piece of corrugated paper board which was stored in a desiccator. A sheet of paper glued to one side of each board provided bottoms to the holes or wells in each of which was stored one filter disc.

When the moisture indicators included in each desiccator showed the desiccant to be reaching the limit of its effectiveness, the desiccant was dried in the galley oven. Silica gel was used as the desiccant; experiments have demonstrated that with some other desiccants, especially calcium chloride, there is a significant loss of C^{14}.

Cleaning the Apparatus

After each use the sample bottles were rinsed first with concentrated hydrochloric acid, then twice with running sea water or tap water. Care was taken that the latter rinses completely filled the bottle thus eliminating acid fumes from the bottle. This was followed by two rinses, each with about 75 ml. of distilled water. The bottles were then stored upside down to drain.

The filter holders were generally washed once a day by immersing them in dilute hydrochloric acid solution (about 1 percent HCl), followed by a rinse in fresh water.

The glass pipettes were generally washed once a day, first flushing them with concentrated hydrochloric acid and then rinsing several times with distilled water.

Chlorophyll Determinations

The methods used, both aboard ship and in the laboratory, were adapted from those described by Doty (1955). On the westbound leg of the cruise, usually at about 0800 each day, a sample was dipped from the surface with a plastic bucket holding about 8 liters. A half-teaspoon of magnesium carbonate was stirred into the sample using an ordinary physician's wooden spatula. Phytoplankton bearing the chlorophyll pigments was collected by straining the sea-water sample through a 47-mm. AA Millipore filter disc (Greitz and Richards 1955). The volume of water strained varied inversely with the amount or rate of clogging of the Millipore filters; ordinarily 4 or 5 liters were filtered.

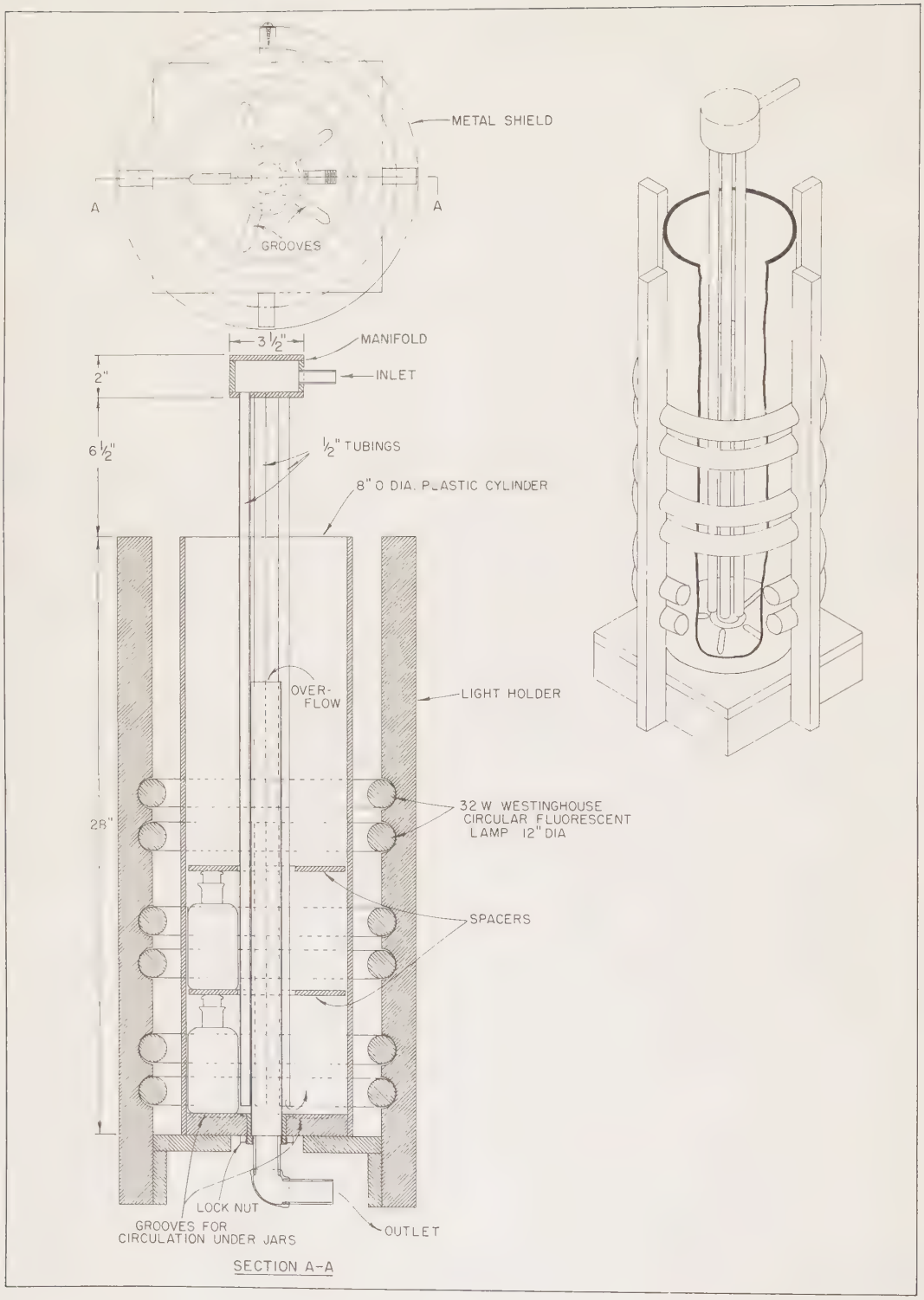

Figure 5.--Illuminated water bath for holding water samples inoculated with C^{14}.

The filter discs were placed in 3-dram shell vials which were stored in a desiccator in the dark. At about 10-day intervals the vials were transferred to a can that was then sealed with waterproof tape and placed in a freezer. The filters were kept frozen and not exposed to light until they were returned to the laboratory for processing.

Oceanographic Observations

At each of the oceanographic stations occupied along 110°W., 120°W., and 140°W. longitude during the westbound passage (fig. 1), 13 Nansen bottles were used in casts designed to reach 1,200 meters. However, succesive losses of wire and persistently large wire angles resulted in the casts frequently reaching depths of less than 1,200 meters. Whenever practicable, the large angles were reduced prior to release of the messenger by steaming up on the wire. In figure 6 the wire angle prior to steaming is shown for each station. Also, the reduction in angle prior to releasing the messenger is indicated.

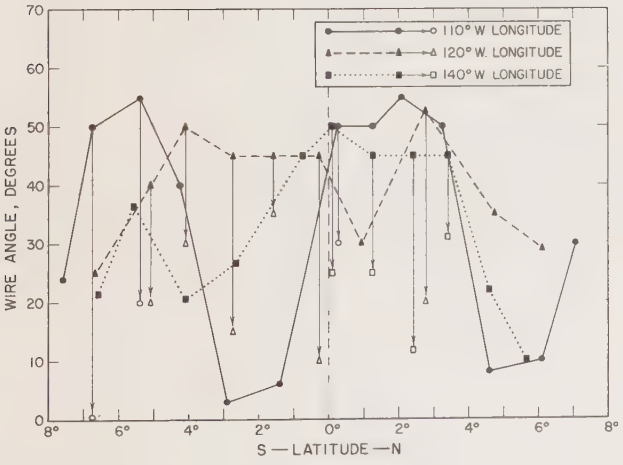

Figure 6.--Variations in wire angles with latitude, for the oceanographic stations along 110°W., 120°W., and 140°W. longitude. The solid symbol denotes the angle prior to steaming up on the wire; the open symbol the angle at messenger time. The two angles for a particular station are connected by a vertical arrow.

A bathythermograph lowering was made immediately before each station and the resulting temperature-depth record was used to determine the spacing of the 6 bottles between the surface and 300 meters. The deeper 7 bottles were placed at standard depths. Paired, protected reversing thermometers were used with each bottle, and, in addition, an unprotected reversing thermometer was used with the fifth, seventh, ninth, eleventh, and thirteenth bottles.

A salinity sample was drawn from each Nansen bottle and returned to the laboratory at Honolulu for analysis. Samples were also drawn for dissolved oxygen and inorganic phosphate determinations. All oxygen analyses were run on board the Smith using a modified Winkler method. The concentration of inorganic phosphate at all depths sampled was photometrically determined on board from station 64 (H1) to station 75 (H8). During this latter station, the Automatic Servo-Operated Photometer (ASOP) broke down. Subsequently, samples from 3 to 5 depths at each oceanographic station and surface samples at zooplankton and C-14 stations were frozen for analysis at the Honolulu laboratory.

The thermograph was inoperative between Honolulu and Manzanillo, Mexico. A new thermal assembly, installed prior to departure from Mexico, provided a continuous record of surface temperature during the cruise back to Honolulu. This record was particularly valuable in regions of sudden change in temperature, such as at the front near 4°N. latitude, 120°W. longitude.

A temperature-depth plot was maintained throughout the cruise using the uncorrected BT records. A record of the BT observations, together with accompanying weather observations and associated surface salinity and inorganic phosphate data, are given in table 8.

Meteorological Observations

Standard marine weather observations, recorded on USWB Form 1210F, were made four times daily, encoded, and transmitted whenever possible to San Francisco; data from these observations are tabulated in table 12. The meteorological observations accompanying each of the oceanographic stations are included in the heading for each station, table 7.

LABORATORY PROCEDURES [2/]

Zooplankton

First the few organisms with longest dimension greater than 2 cm. were removed from each sample, identified as precisely as possible, and their displacement volume determined. Then the volume of the remainder and bulk of the sample, i.e., those organisms with longest dimension less than 2 cm., was determied. In measuring the displacement volume, the sample was poured into a draining sock of 56XXX grit gauze to filter off the preserving liquid. When the sample stopped dripping, it was transferred to a graduated cylinder of appropriate size (usually 50- or 100-ml. capacity). By means of a burette, a known volume of water was added to the drained plankton. The difference between the volume of the plankton plus the added liquid and the volume of liquid alone was recorded as the displacement or wet volume of that portion of the sample.

Following the usual procedure at our laboratory, the volume of all organisms less than 2 cm. in length plus the volume of organisms 2 to 5 cm. in length that might be considered of significant nutritional value were combined to give a single volume measurement for each sample. This figure was divided by the estimated amount of water passing through the net to obtain the volume of zooplankton, as food, per unit of water strained.

In counting the plankton a fourth or an eigth of each sample was spread out in a shallow, rectangular dish 15 x 20 cm., ruled in 1-cm. squares. All organisms greater than 0.5 mm. longest dimension were counted in 10 fields, each 1 cm. square. The estimated number of organisms in the total sample (not including the few organisms greater than 2 cm. longest dimension which had been removed previously) was computed by use of the following formula:

$$E = \frac{C \cdot A}{f \cdot a \cdot n}$$

when

E = total estimated number
C = counted number
A = area of counting cell
f = fraction of total sample in the counting cell
a = area of field
n = number of fields counted

The estimated number of organisms per unit of water strained was then calculated by dividing figure E by the amount of water passing through the net.

Midwater Trawling

In the laboratory each trawl collection was split into two size categories, organisms less than 2 cm. and organisms greater than 2 cm. longest dimension. Because of the mesh size of the trawl net, the first category was not sampled in a quantitative manner. Each size group was further sorted into kinds of organisms, with identifications being made to the most precise degree that seemed practical.

The number and displacement volume were determined for each kind or group of organisms identified. In some instances, the total number of certain organisms in the less than 2 cm. category was estimated from the number in a subsample. Table 5 gives the total numbers and volumes of each of the two size categories. The detailed composition of the collections will be reviewed in a later report.

Carbon Fixation Measurements

Counting the C^{14}

In the University of Hawaii laboratory at Honolulu, the filter discs bearing the C^{14} fixed in the sample bottles were mounted on Tracerlab E-8B planchette holders, which had been lightly greased to retain the discs. The counting was done with a Tracerlab SC16 windowless gas flow counter and a Tracerlab 1000-Scaler, or a Nuclear-Chicago 161A-Scaler, using as the gas in the counting chamber a mixture of U. S. P. XII Helium bubbled through ethanol at -15° to -5°C.

[2/] We should like to acknowledge the assistance of other POFI personnel in processing the EASTROPIC data and collections. John Van Landingham was responsible for the chemical determinations; Mary Lynne Godfrey and Ella Mendiola for processing the oceanographic data; Thomas Hida, Robert Iversen, and Hilda Ching for the zooplankton counts and volume measurements; Allen Shimomura for the midwater trawl data; and Tamotsu Nakata drafted the figures.

Mikihiko Oguri, of the University of Hawaii, made the C^{14} counts and chlorophyll measurements.

The light-bottle samples were counted for 3 to 10 minutes to a minimum of 1,080 total counts with an error of about 5 percent. The dark-bottle samples were similarly counted, although a minimum total count of 400 for a standard error of 5 percent was considered acceptable. Due to pressure of time, few samples were counted beyond 10 minutes, even though the desirable minimum number of counts may not have been obtained.

Every third count was a C^{14} standard, which afforded about 25,000 counts per minute. This standard was counted for 5 minutes. Each sample was corrected to the standard count immediately preceding or following it.

If the dark-bottle sample differed in time of illumination to any great extent from the light-bottle sample, both counts were corrected to a standard time, usually 6 hours. Otherwise the time of illumination for the light-bottle samples was accepted as the time for both light- and dark-bottle samples.

The total count was divided by the number of minutes to give counts per minute. From this figure the background counts per minute was subtracted. Background counts per minute was determined by placing a clean filter in the counting chamber and counting for a period of 1/2 to 1 hour.

In cases where replicate samples were illuminated for the same length of time, the values obtained for each (in counts per minute minus background) were averaged if the difference between the lowest and highest figures obtained was not greater than 25 percent of the highest value. If the difference was greater the calculations for the replicates were carried out separately.

Calculation of Rate of Carbon Fixation

It is assumed that carbon fixation which did not result from photosynthesis occurred uniformly in both the light and dark bottles. Also, that photosynthesis did not occur in the dark bottles, since light was excluded.

The quantity of carbon photosynthesized (fixed) per hour per cubic meter of water was calculated as follows:

$$\text{Mg. C/hr./m.}^3 = \frac{(L\text{-}D) \cdot 24,545}{A \cdot T}$$

where:

(L-D) = the net C^{14} counts per minute, i.e., the light-bottle (L) counts minus the dark-bottle (D) counts.

A = total counts per minute from the known quantity of C^{14} originally added to each sample.

T = number of hours of illumination.

The multiplier 24,545, derived from $\frac{1000 \cdot 90 \cdot 12}{44}$, converts carbon dioxide per liter of sea water (90 mg., according to Sverdrup et al. 1942: 189) to carbon per cubic meter (atomic weight of carbon is 12; molecular weight of carbon dioxide is 44).

No correction was made for isotope effect, nor was any attempt made to compute more accurately the actual concentration of carbon dioxide in individual sea-water samples. Such adjustments, while they might improve the accuracy of the method, were considered for the time to be meaningless refinements since it was felt that they represent corrections that lie within the errors introduced in the manipulations and calculations. The calculations were done independently by two individuals and any differences rectified. The results, which we consider as "raw data," are listed in table 6.

Chlorophyll Determinations

Approximately 10 ml. of 90-percent acetone was added to each vial containing a Millipore filter disc. The vial was then placed in the dark in a refrigerator for 12 to 24 hours to permit extraction of the pigments. After this extraction period the contents of the vial were decanted into a 15-ml. centrifuge tube. The vial was rinsed twice with 2 or 3 ml. of the acetone; after each rinse the contents of the vial were added to the centrifuge tube. The pigment extract was centrifuged in a clinical desk centrifuge at 3,000 to 4,000 r.p.m. for 5 minutes. The extract was then decanted into 5-cm. absorption cells. The residue in the centrifuge tube was resuspended in 1 to 2 ml. of acetone. After the residue had been allowed to stand for 2 or 3 minutes, it was again centrifuged at 3,000 to 4,000 r.p.m. for 5 minutes. The extract from this residue was then added to the absorption cell. The cell was filled with acetone and inserted into a Beckman Model B spectrophotometer. With the sensitivity control set at the number 4 position, transmittance

readings were taken at 750 mμ, 665 mμ, 645 mμ, 630 mμ, and 550 mμ. Either before or after the sample readings, the transmittance in a reagent blank (90-percent acetone) was read at the same wave lengths. Following the method of Richards and Thompson (1952), the concentrations of chlorophyll a, b, and c were calculated from the results in terms thought to be equivalent to milligrams per cubic meter.

Oceanographic Observations

The temperature-depth profiles drawn from BT observations along sections of the cruise track, as numbered in figure 7, are shown in figure 8. Because of the close spacing of the observations, particularly during the eastward passage, and the chosen distance scale for the plots, it was frequently desirable to omit data from every second lowering.

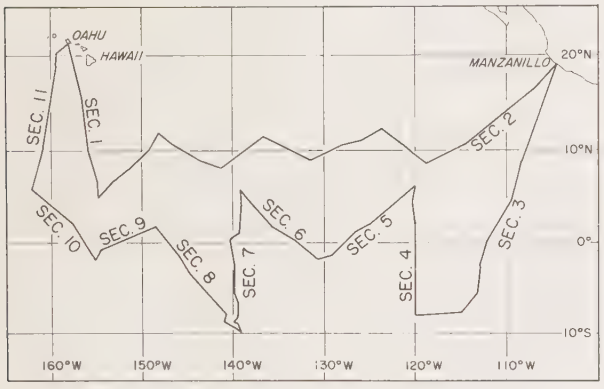

Figure 7.--Positions of temperature-depth sections shown in figure 8.

The salinity of water samples returned to the laboratory was determined by a modification of the Mohr method. This modification, resulting in a stoichiometric end point, involves the use of an adsorption indicator, phenosafranin, in the presence of starch as a protective colloid (Van Landingham 1957).

Inorganic phosphate determinations were made both aboard ship and ashore (frozen samples), using a modification of the molybdenum method with the Automatic Servo-Operated Photometer (Snodgrass et al. 1953). A supplementary reducing agent, hydrazine sulphate, was used to stabilize the color complex. With this technique, although maximum color development takes longer, the color complex is stable for at least 7 days.

The procedures for the treatment of the observed data leading to the final tabulations and the preparation of the station curves and the vertical sections essentially followed those described by Stroup (1954). The principal variations involve the use of the thermosteric anomaly in lieu of sigma-t and a technique of graphical integration to determine the dynamic heights (Montgomery and Wooster 1954; Klein [3/]).

In this report the presentation of the oceanographic data differs somewhat from that in previous POFI publications. Only the observed station data are tabulated (table 7). In lieu of the tabulations of interpolated data at standard depths, the station curves are reproduced (fig. 9). The anomaly at the surface relative to the 700-decibar level is entered on each graph. The 700-meter reference level was used because several of the casts did not penetrate to 1,000 meters. From these curves the reader can see the station-to-station interpolation introduced by the analyst during the drawing of the curves, and in this form we believe the data are more suitable for diversified types of analyses.

The vertical sections for the thermosteric anomaly, geopotential anomaly (0/700db, neglecting pressure terms in the specific volume anomaly), salinity, dissolved oxygen, and inorganic phosphate, figures 10 to 23, were constructed following the method proposed by Montgomery (1954) and extended by Stroup (1954). In order that the details in the region of the thermocline could be shown with greater clarity, the sections are drawn only to the 500-meter level. Because of the failure of the ASOP and an insufficient supply of containers for the frozen inorganic phosphate samples, the section along 120°W. longitude extends only from the surface into the thermocline and there is no comparable section for the 140°W. longitude leg.

PUBLICATION PLANS

Our plans for analyzing and publishing the results of POFI's participation in EASTROPIC are as follows. A report, listing 40 species of sea birds and describing variations in their distribution and abundance in relation to the current system, has been published in The Condor (King and Pyle 1957). There will be a brief report on the 4°F. front near 4°N. latitude, 120°W. longitude, with a description of the associated biological and physical phenomena. This will be followed by a comprehensive paper treating all aspects of the cruise and utilizing as applicable the published results of the EASTROPIC cruises of other agencies.

[3/] "A new method for processing oceanographic data," unpublished manuscript by Hans Klein, Scripps Institution of Oceanography.

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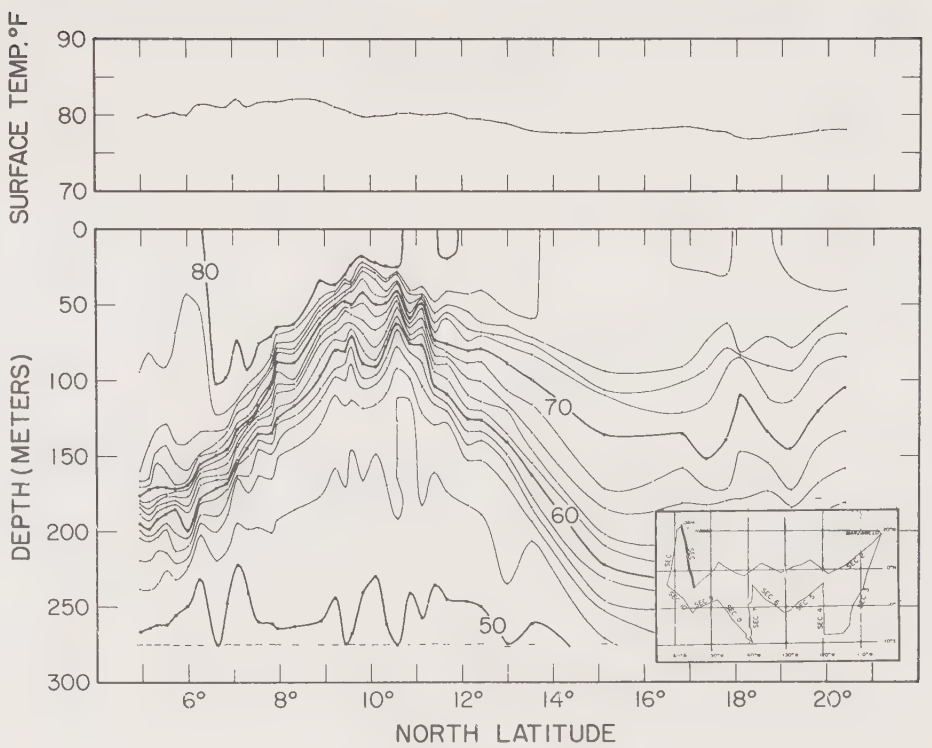
Figure 8.--Upper panel, surface temperatures; lower panel, temperature-depth section from BT data. The geographical location of each of the vertical sections is shown in figure 7 and by the darkened portion of the track in the inserts. Each section is keyed by number to figure 7. Those sections which are oriented north-south are plotted against latitude; those which cross several longitudes are plotted against distance in nautical miles. The depth scales are in feet and meters; the contour interval is 2°F.; a small dash indicates maximum depth of lowering. Thermograph trace was used as applicable to determine configuration of surface temperature curves.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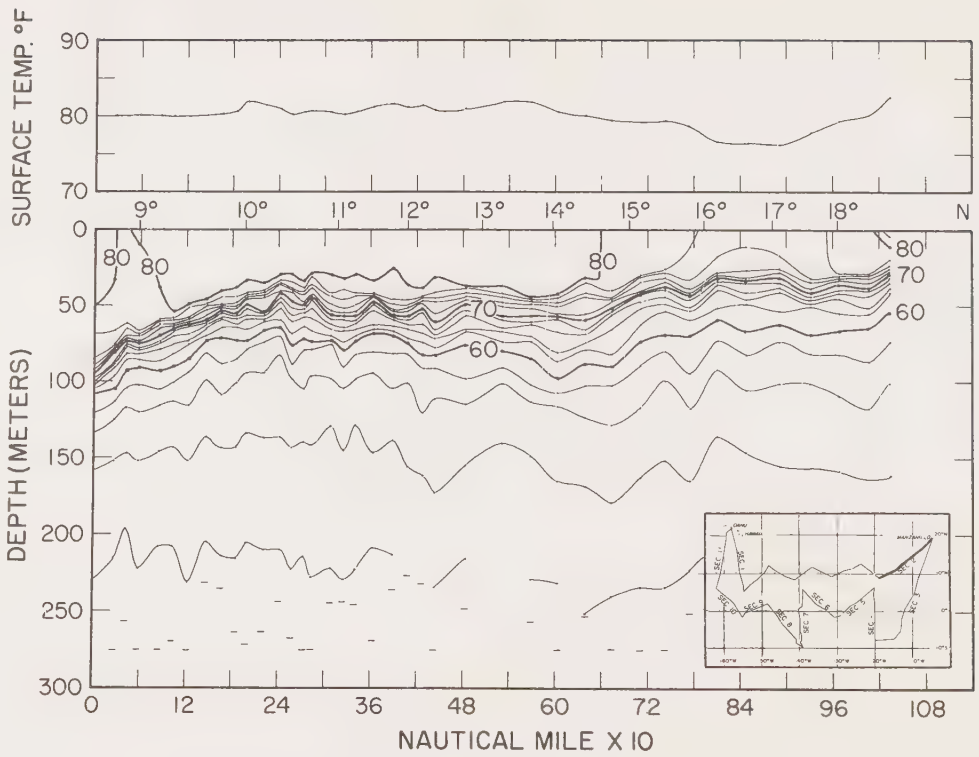
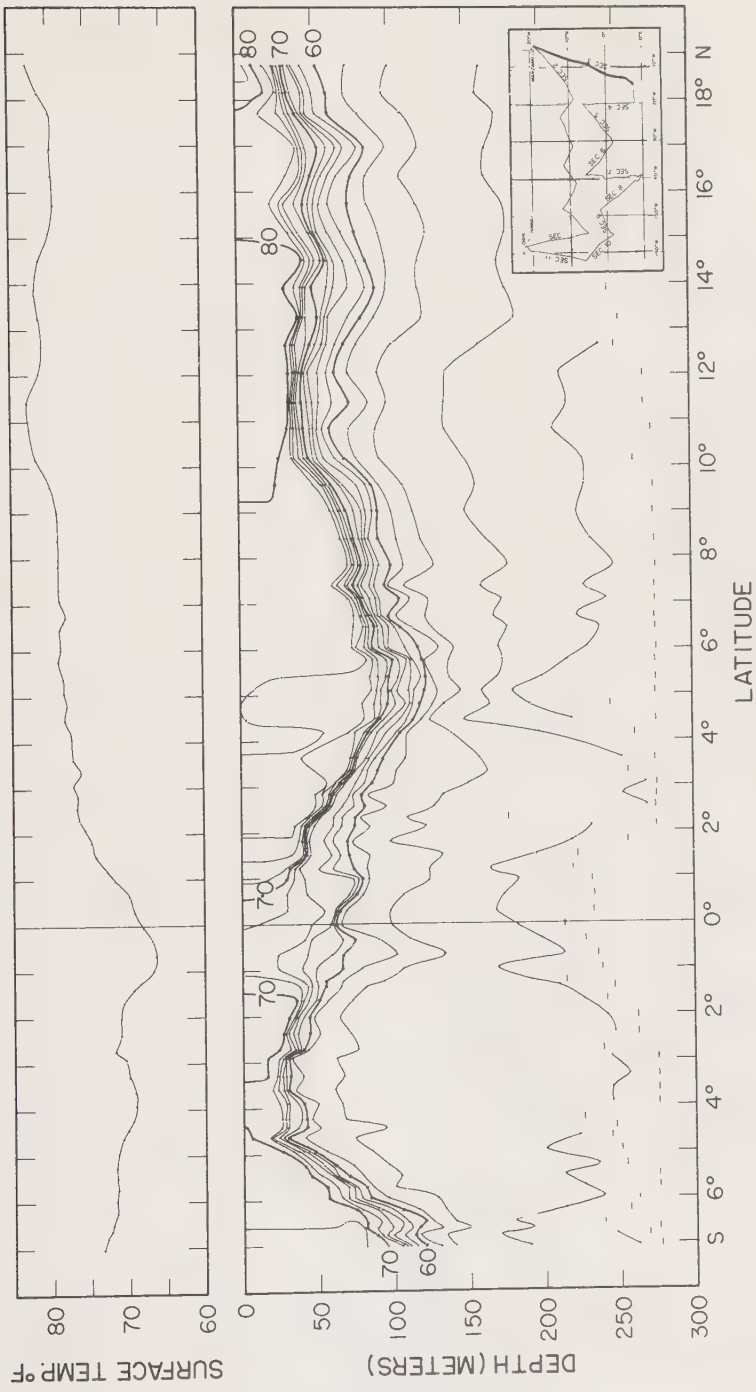
90
80
70
DEPTH (METERS)
0
50
100
150
200
250
300
80
70
60
50
6°
8°
10°
12°
14°
16°
18°
20°
NORTH LATITUDE

SEC. I


SURFACE TEMP. °F
90
80
70
9°
10°
11°
12°
13°
14°
15°
16°
17°
18°
N
DEPTH (METERS)
0
50
100
150
200
250
300
80
70
60
0
12
24
36
48
60
72
84
96
108
NAUTICAL MILE X 10

SEC. 2


SURFACE TEMP °F
80
70
60
DEPTH (METERS)
0
50
100
150
200
250
300
80
70
60
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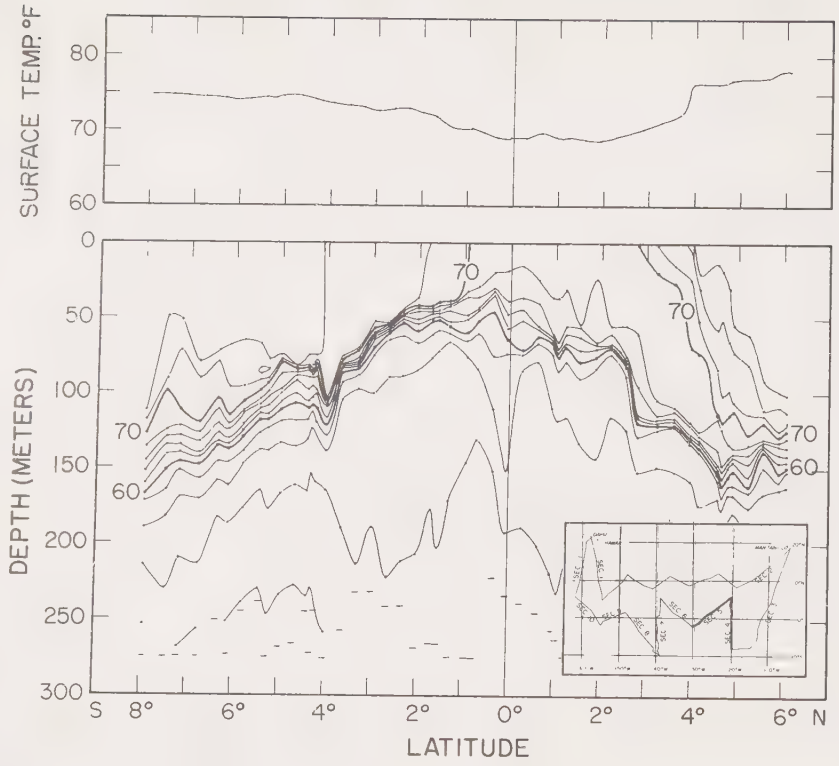
LATITUDE

SEC. 3


SURFACE TEMP. °F
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60
DEPTH (METERS)
0
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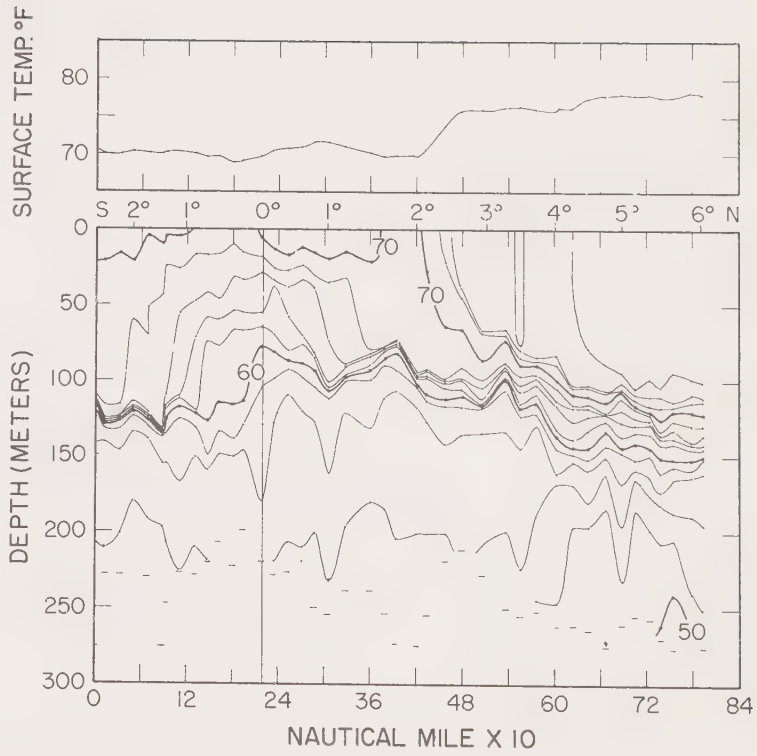
70
60
60
S 8° 6° 4° 2° 0° 2° 4° 6° N
LATITUDE

SEC. 4


SURFACE TEMP. °F
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70
S 2° 1° 0° 1° 2° 3° 4° 5° 6° N
DEPTH (METERS)
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70
70
60
50
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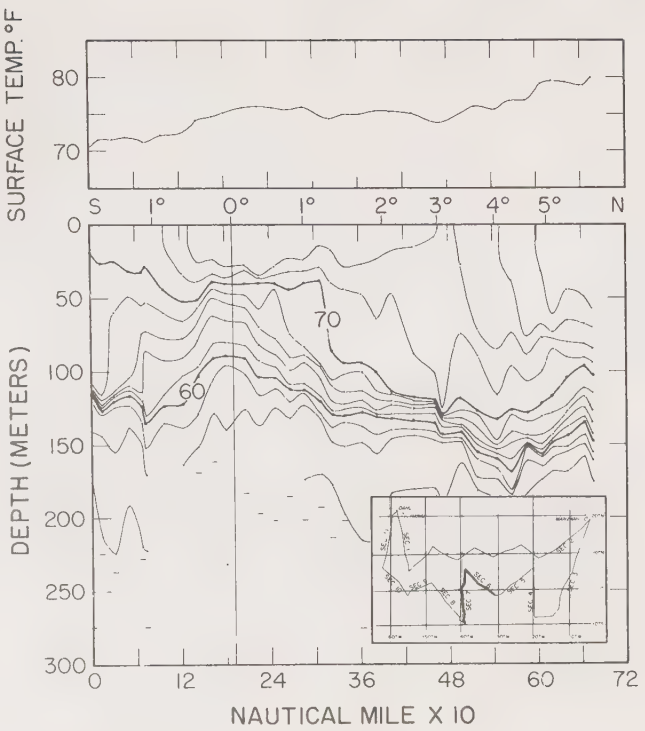
NAUTICAL MILE X 10

SEC. 5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70
S
1°
0°
1°
2°
3°
4°
5°
N
DEPTH (METERS)
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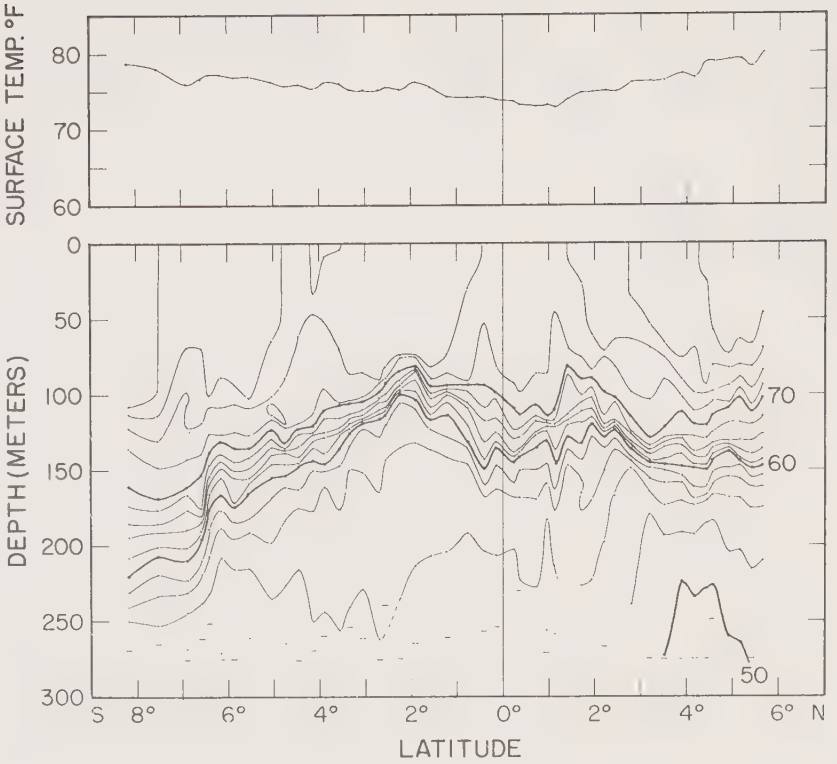
150
200
250
300
70
60
0
12
24
36
48
60
72
NAUTICAL MILE X 10

SEC. 6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DEPTH (METERS)
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100
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200
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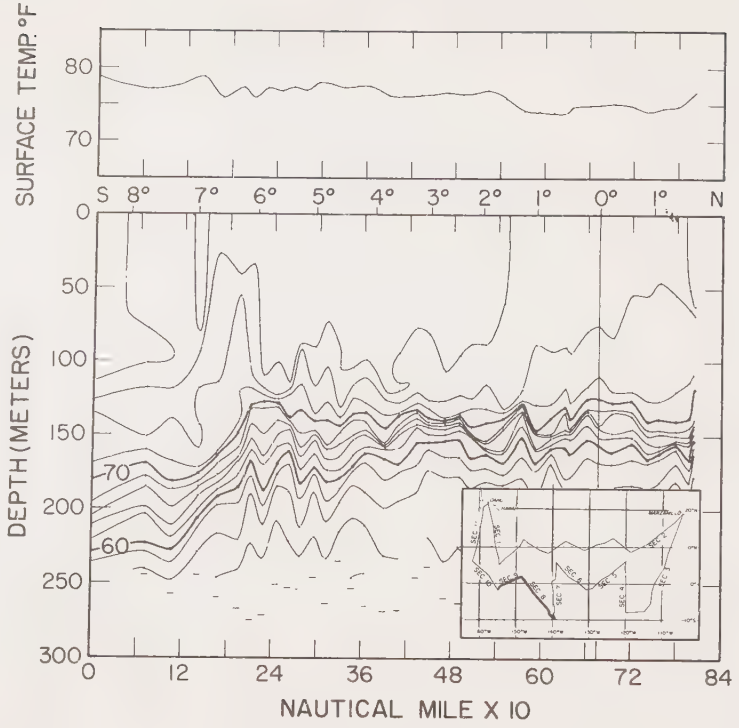
4°
2°
0°
2°
4°
6°
N
LATITUDE

SEC. 7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70
S 8° 7° 6° 5° 4° 3° 2° 1° 0° 1° N
0
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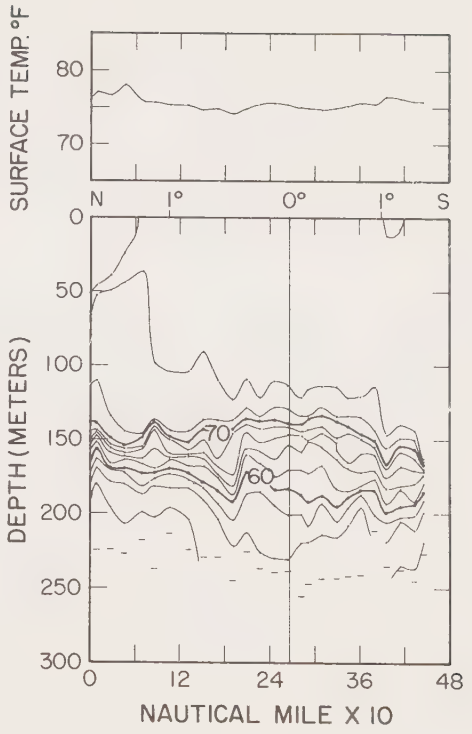
100
150
200
250
300
DEPTH (METERS)
70
60
0 12 24 36 48 60 72 84
NAUTICAL MILE X 10

SEC. 8


SURFACE TEMP. °F
80
70
N 1° 0° 1° S
0
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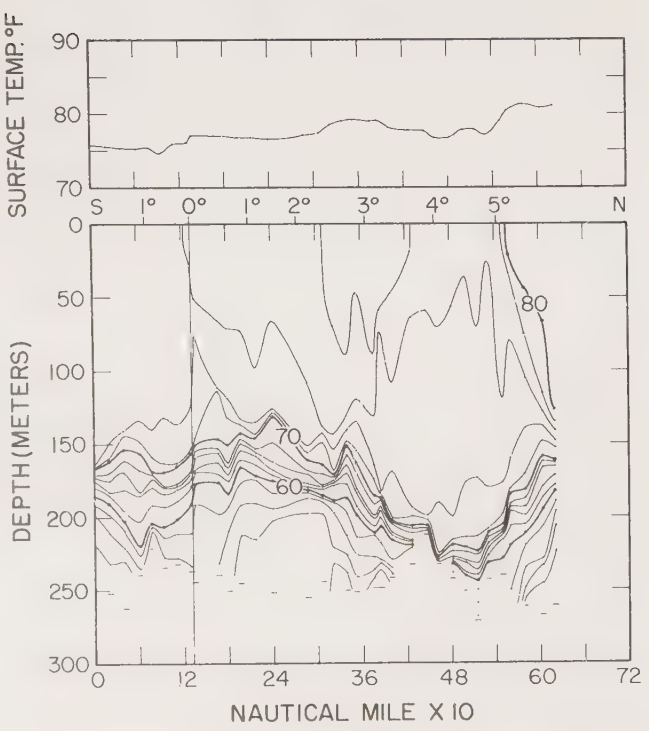
100
150
200
250
300
DEPTH (METERS)
70
60
0 12 24 36 48
NAUTICAL MILE X 10

SEC. 9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80
70
S
1°
0°
1°
2°
3°
4°
5°
N
DEPTH (METERS)
0
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100
150
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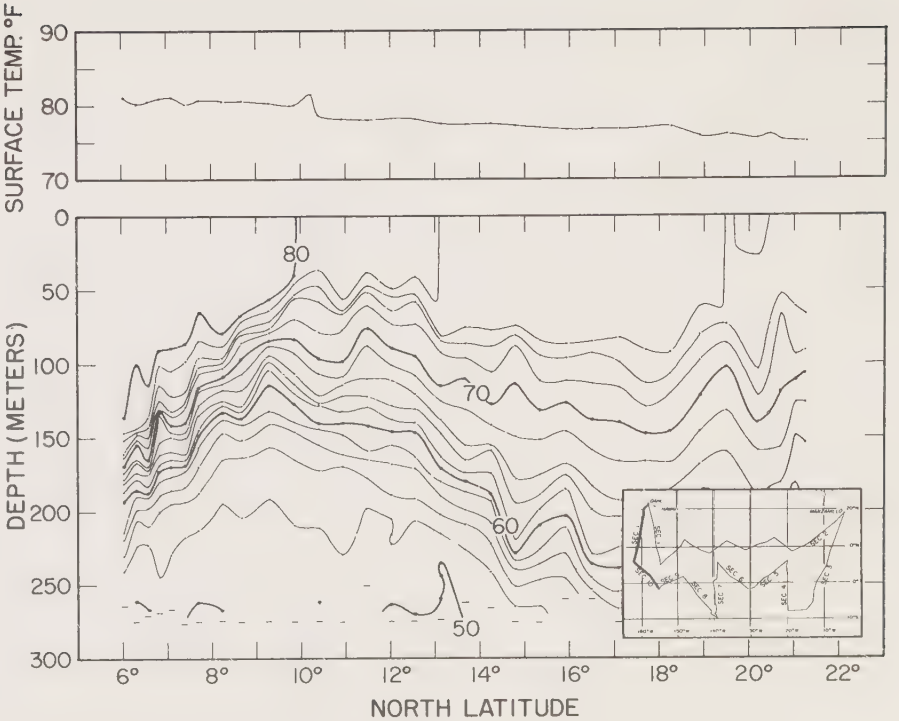
300
80
70
60
0
12
24
36
48
60
72
NAUTICAL MILE X 10

SEC. 10


SURFACE TEMP. °F
90
80
70
DEPTH (METERS)
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50
100
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250
300
80
70
60
50
6°
8°
10°
12°
14°
16°
18°
20°
22°
NORTH LATITUDE

SEC. 11

Figure 9.--Oceanographic station curves; the symbols used are as follows:

Reversing thermometer temperatures °C.

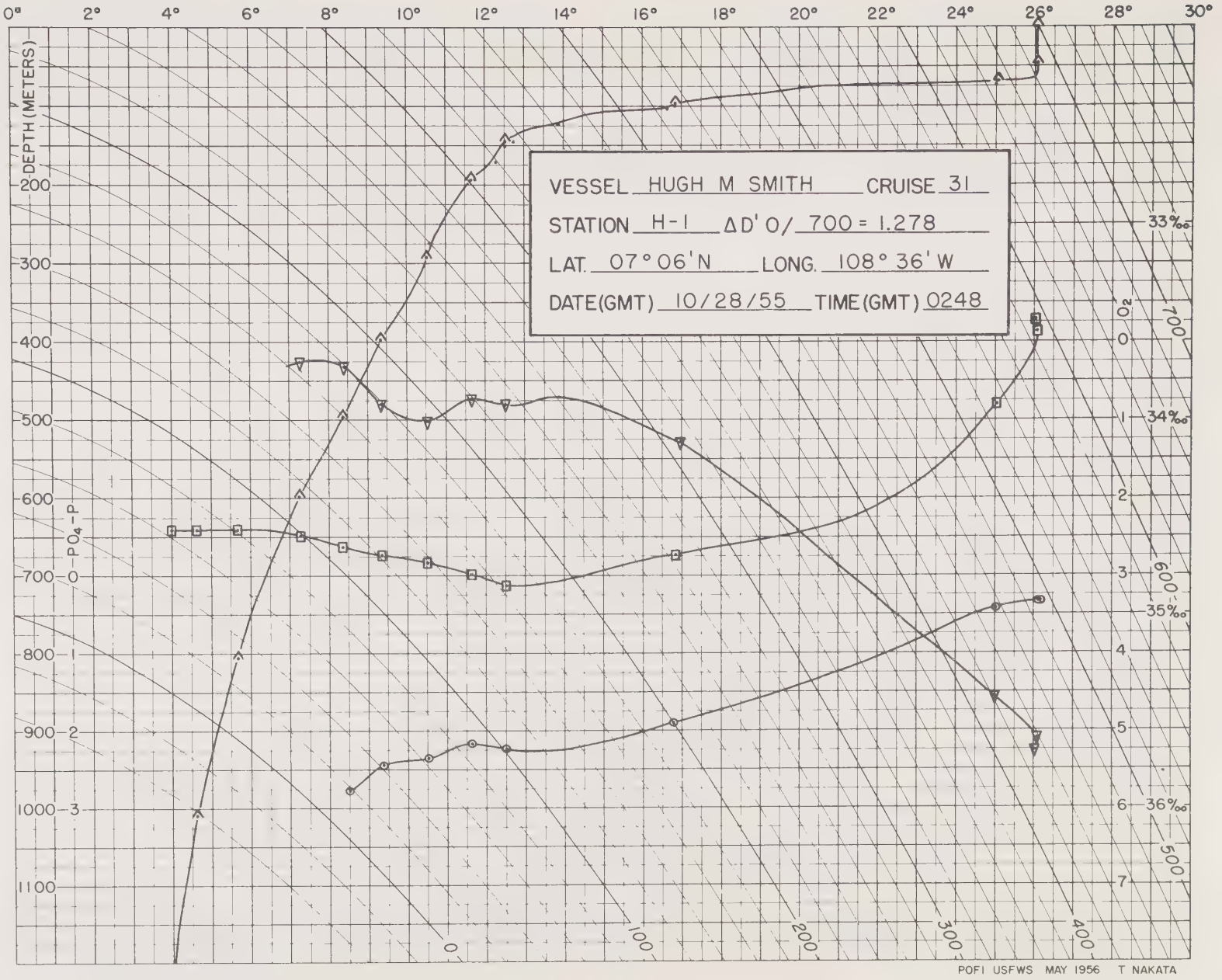
BT temperature °C.

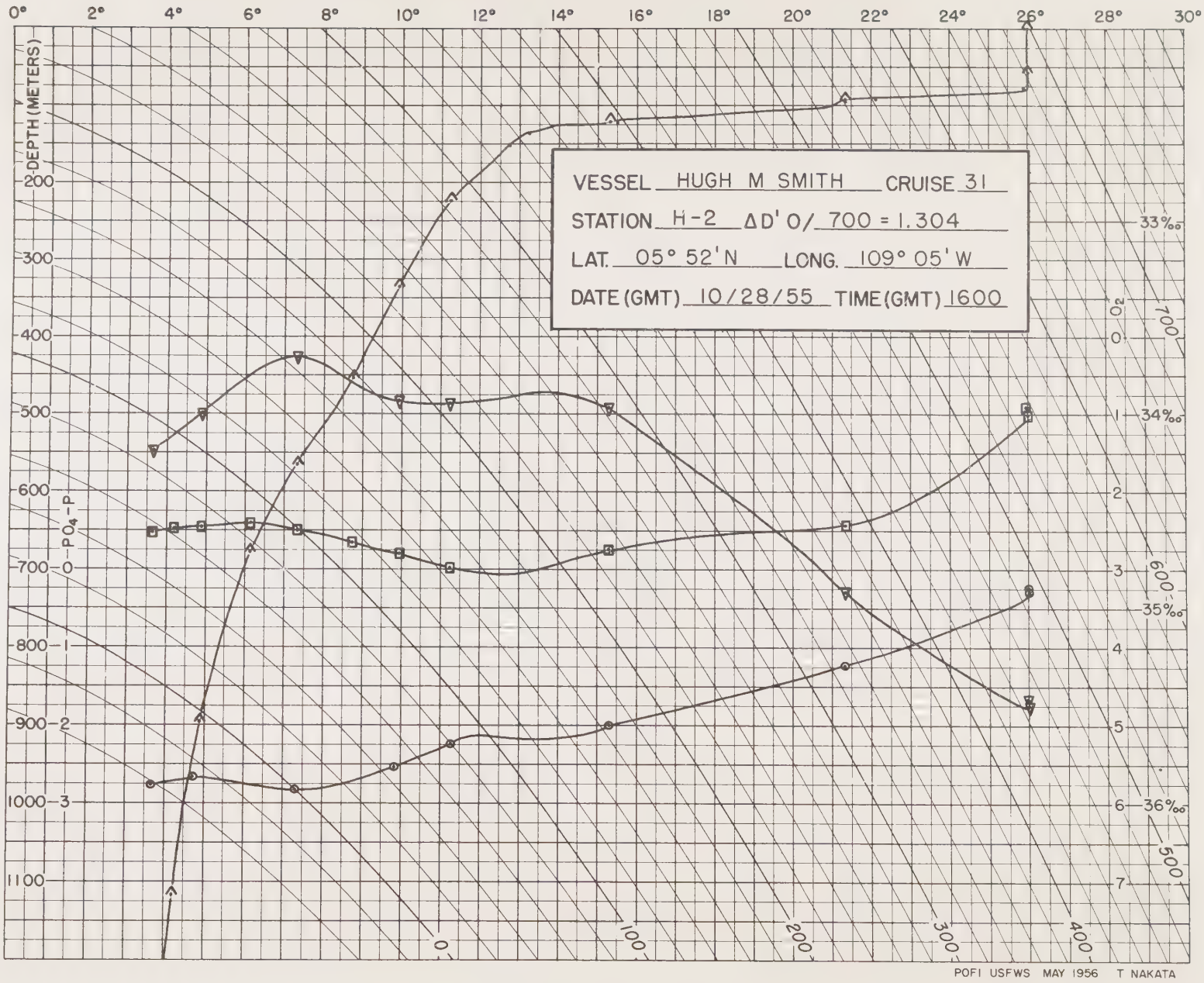
Salinity ‰

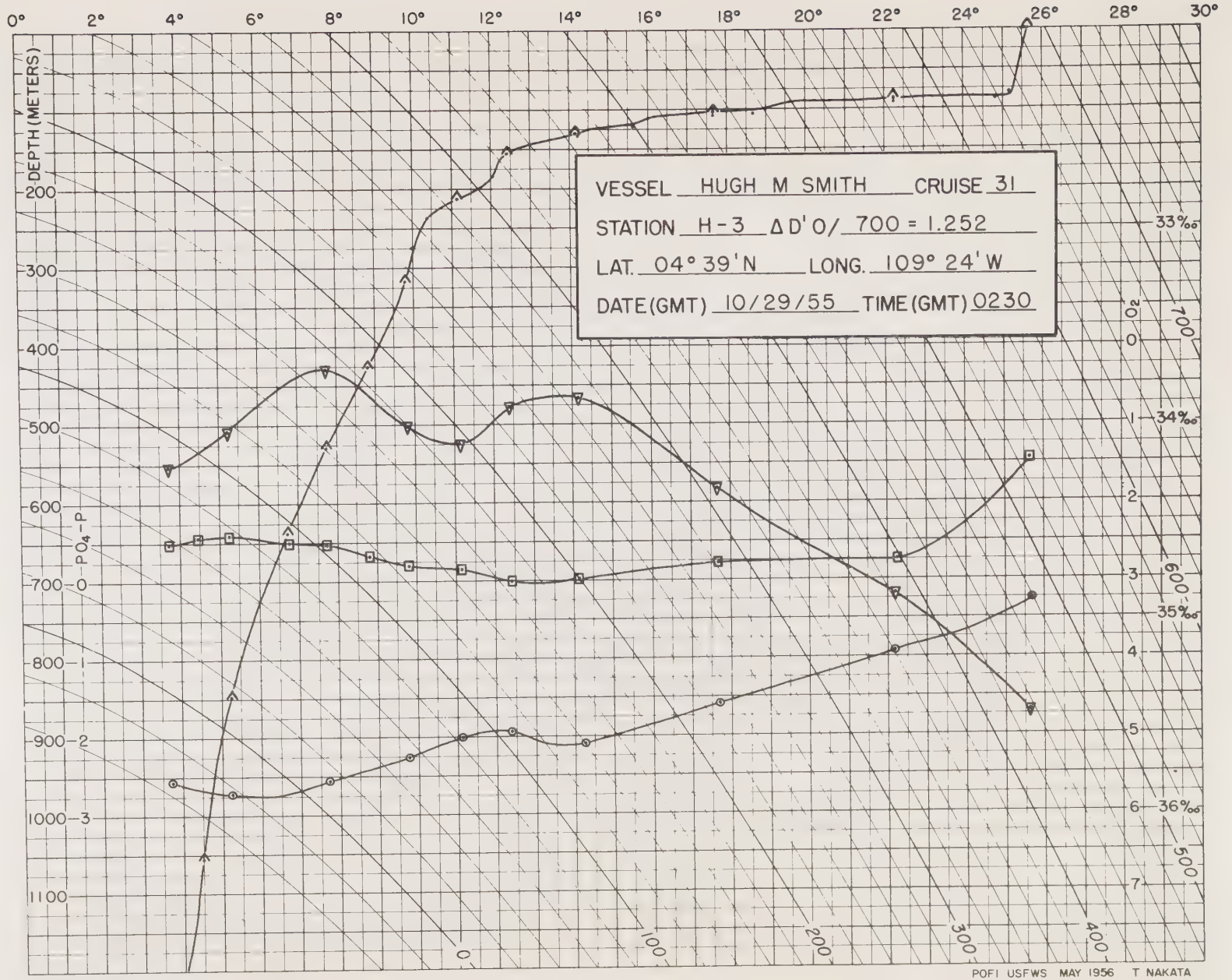
Dissolved oxygen ml./L.

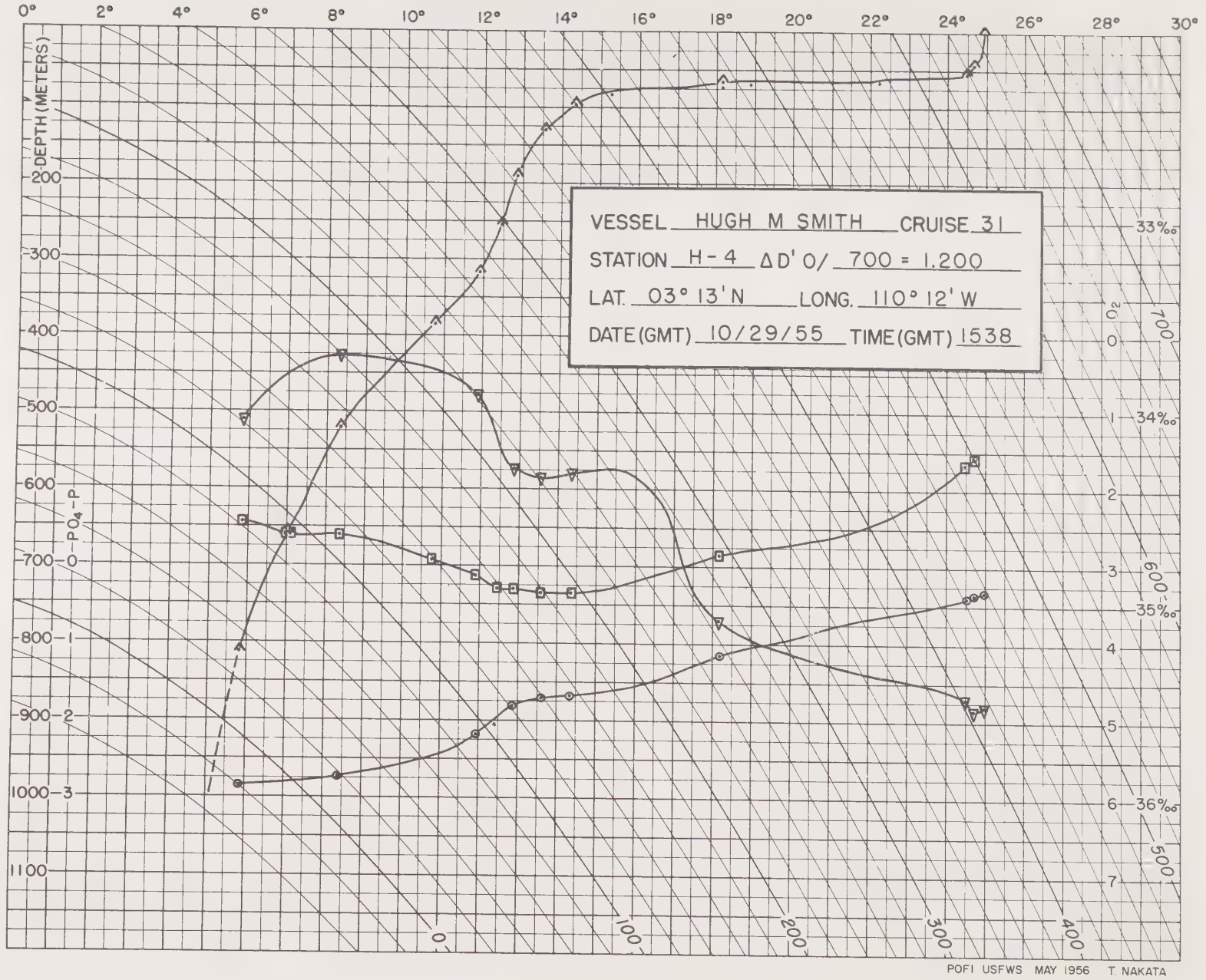
Inorganic phosphate μg at./L.

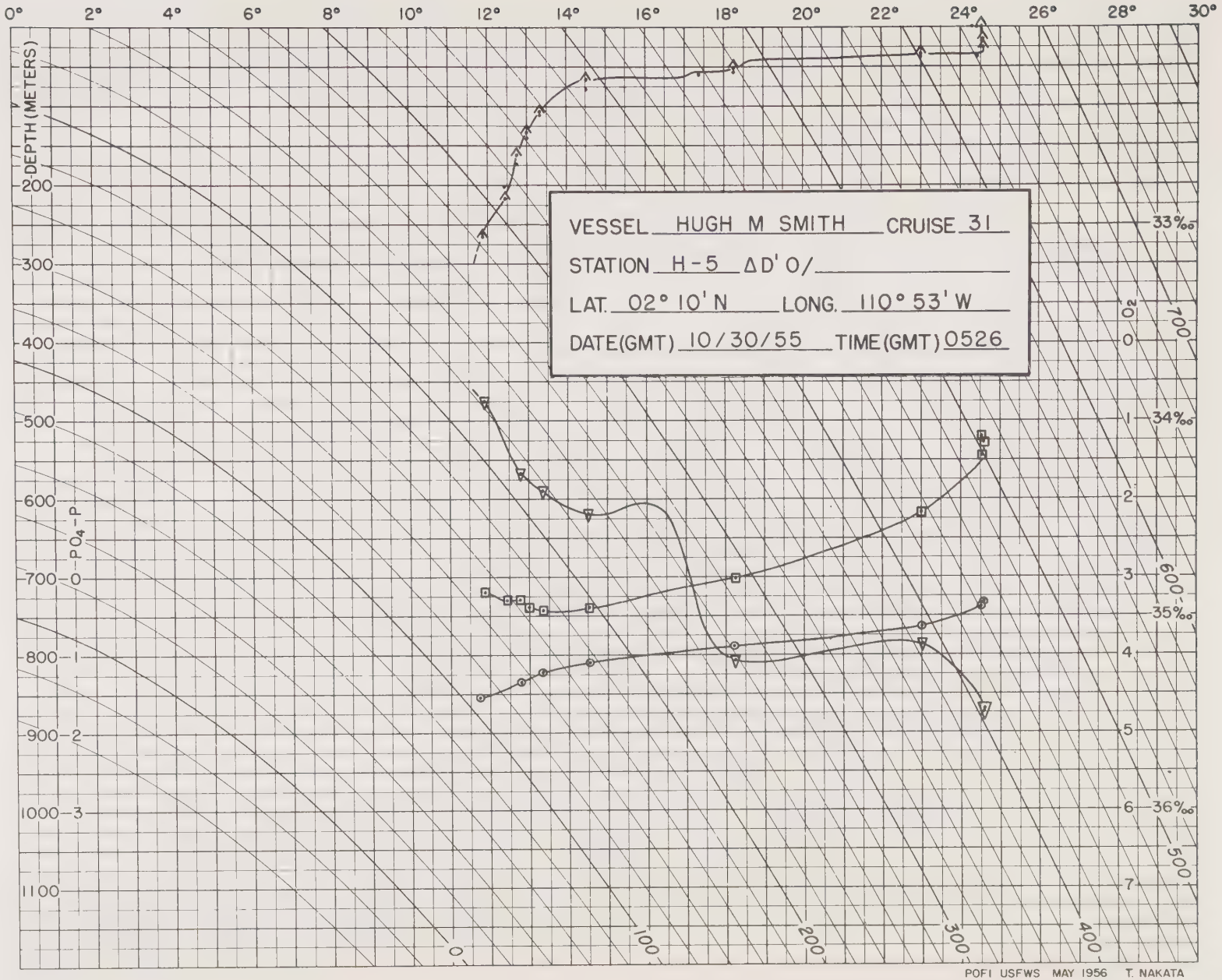
Thermosteric anomaly (oblique lines) are in centiliters per ton (see Montgomery 1954). Where temperatures of paired thermometers differed by more than 0.05°C. below 300 m. or more than 0.10°C. above 300 m., both values are plotted and designated by the symbol . The other variables are plotted for each of the temperature values, see station H22.

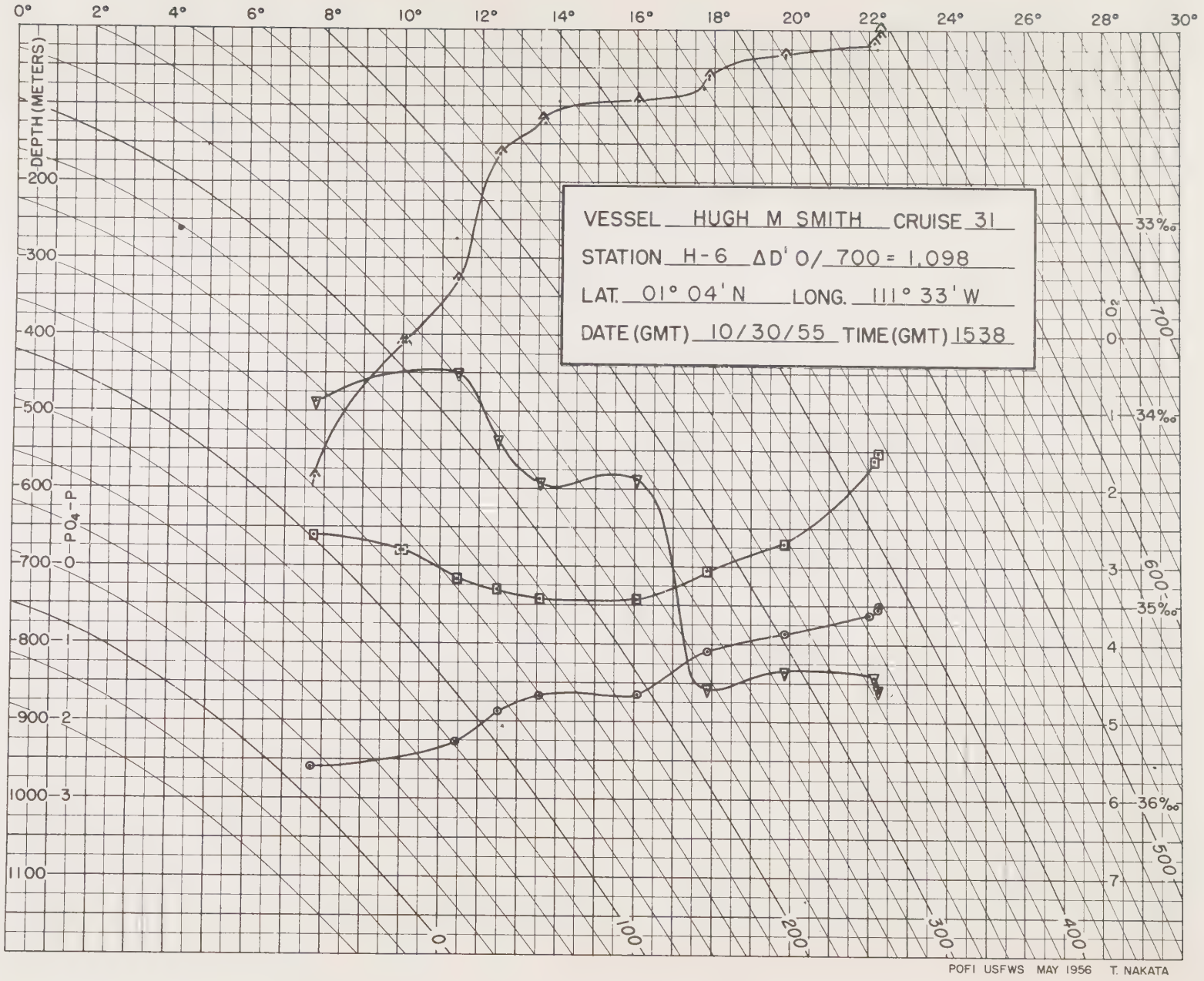

VESSEL HUGH M SMITH CRUISE 31
STATION H-1 ΔD' O/ 700 = 1.278
LAT. 07° 06' N LONG. 108° 36' W
DATE(GMT) 10/28/55 TIME(GMT) 0248
DEPTH (METERS)
PO4-P
O2
0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T NAKATA

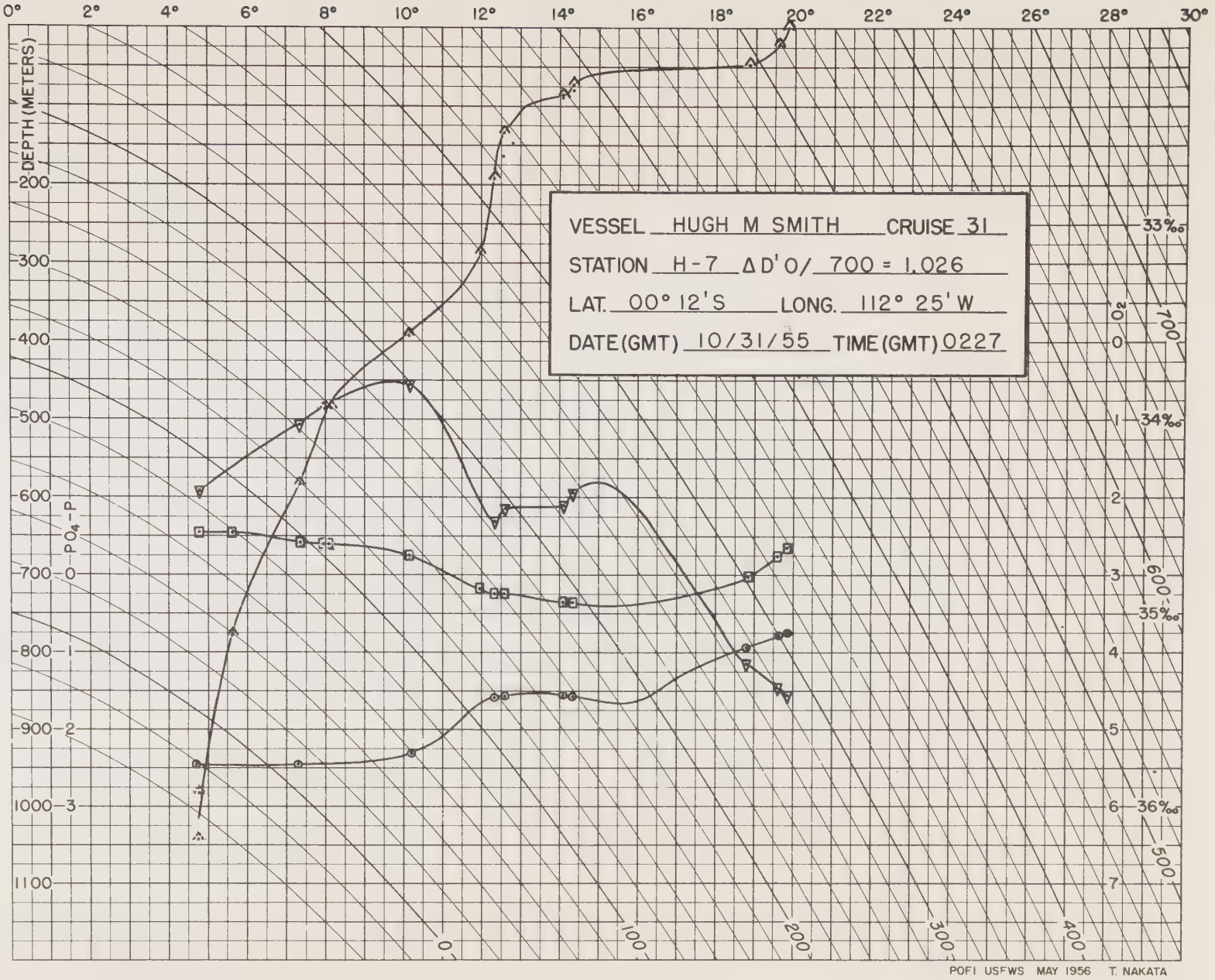

0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
DEPTH (METERS)
200
300
400
500
600
700
800
900
1000
1100
PO_4-P
0
1
2
3
VESSEL HUGH M SMITH CRUISE 31
STATION H-2 ΔD' O/ 700 = 1.304
LAT. 05° 52' N LONG. 109° 05' W
DATE (GMT) 10/28/55 TIME (GMT) 1600
33‰
34‰
35‰
36‰
0
100
200
300
400
500
600
700
POFI USFWS MAY 1956 T NAKATA

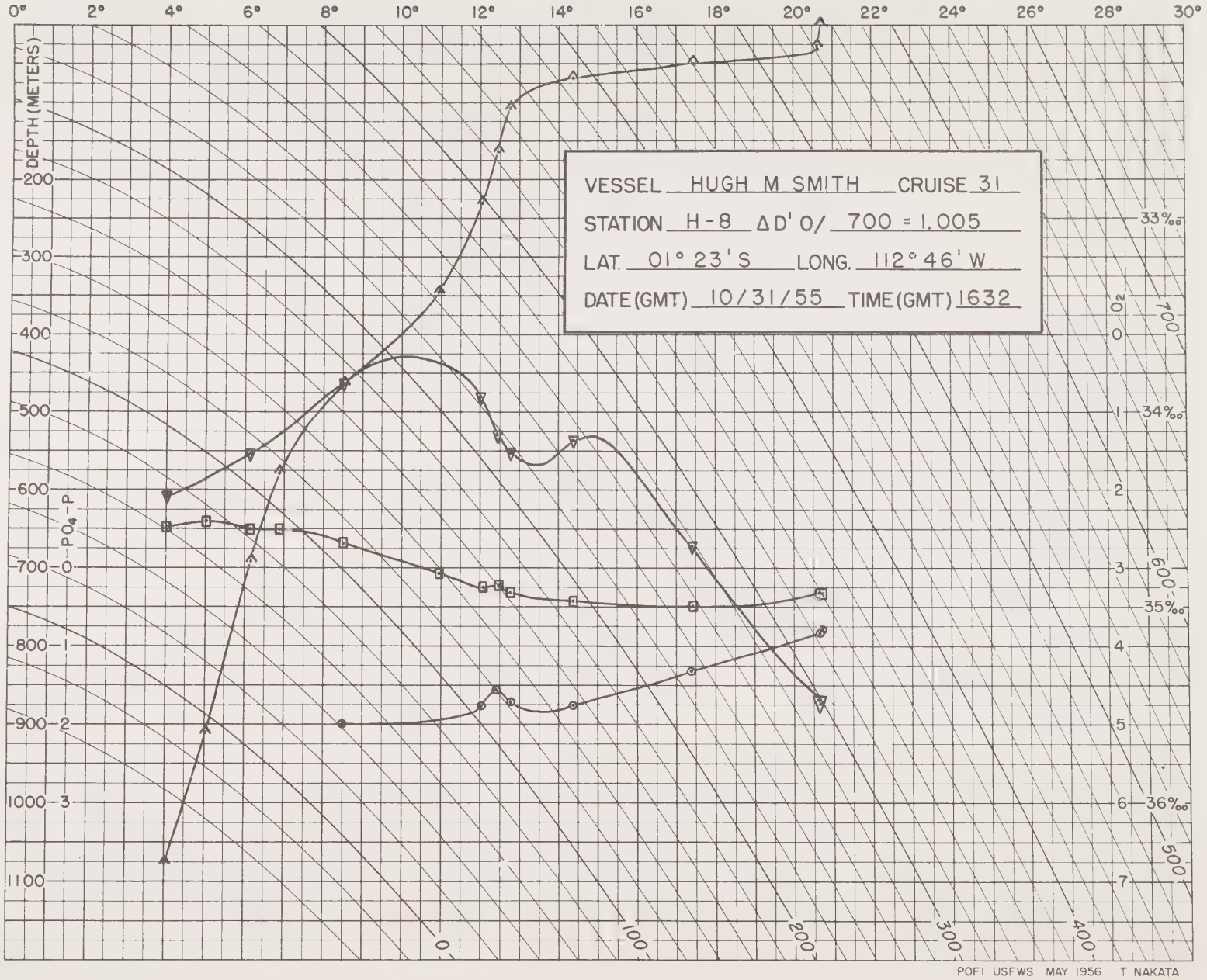

VESSEL HUGH M SMITH CRUISE 31
STATION H-3 Δ D' O/ 700 = 1.252
LAT. 04° 39' N LONG. 109° 24' W
DATE (GMT) 10/29/55 TIME (GMT) 0230
DEPTH (METERS)
POFI USFWS MAY 1956 T NAKATA

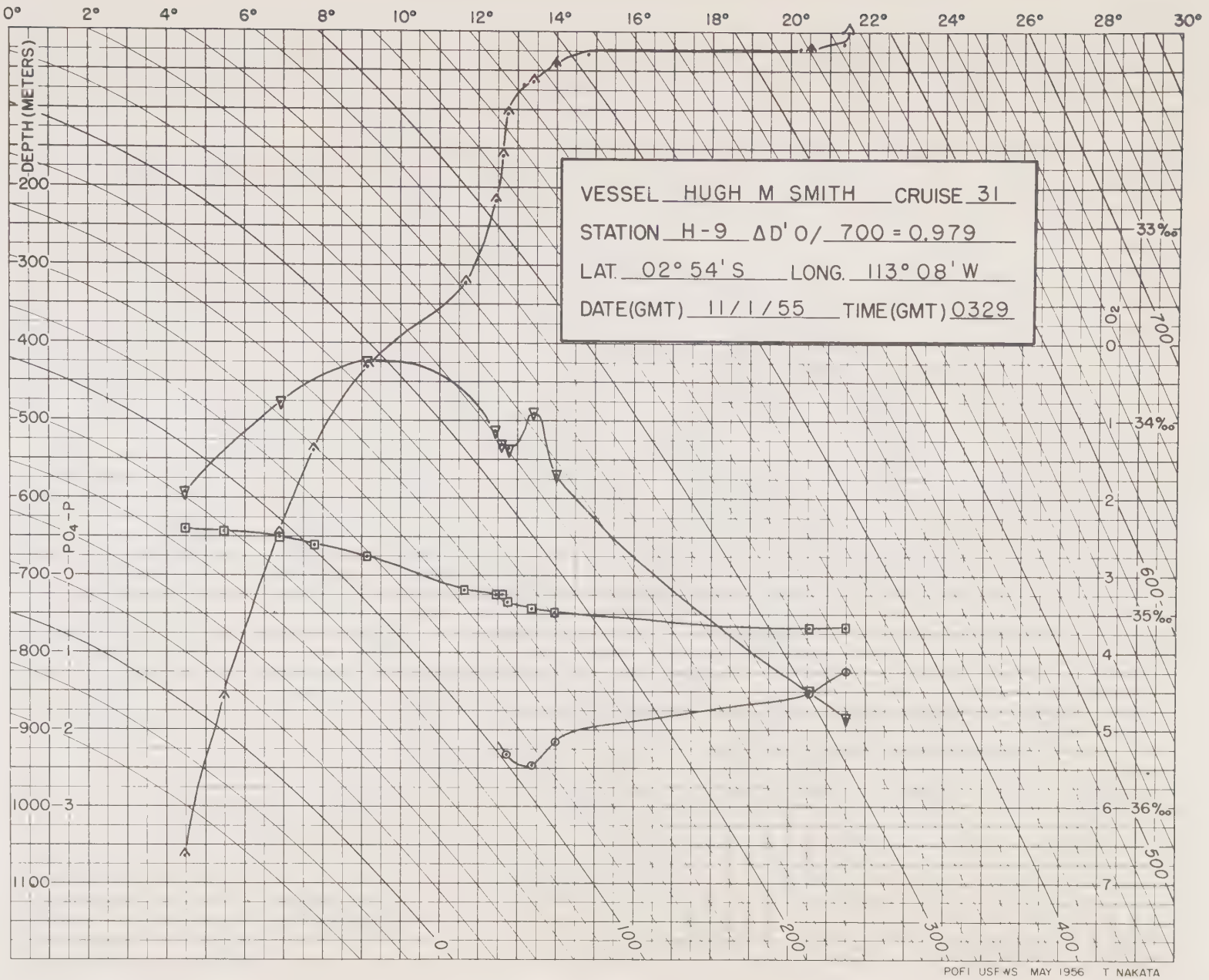

VESSEL HUGH M SMITH CRUISE 31
STATION H-4 ΔD' O/ 700 = 1.200
LAT. 03° 13' N LONG. 110° 12' W
DATE (GMT) 10/29/55 TIME (GMT) 1538
DEPTH (METERS)
PO4-P
0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T. NAKATA

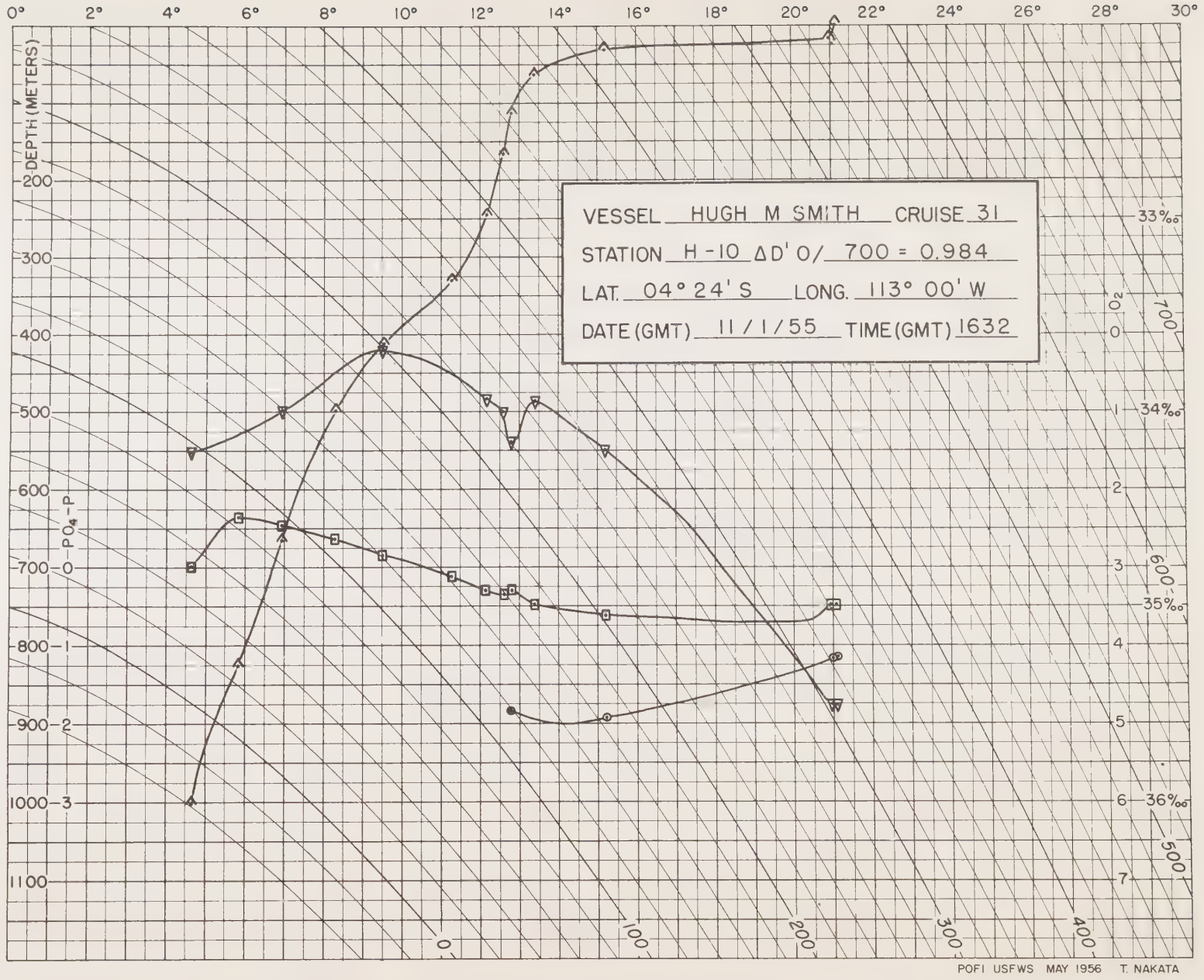

VESSEL HUGH M SMITH CRUISE 31
STATION H-5 ΔD' O/
LAT. 02° 10' N LONG. 110° 53' W
DATE(GMT) 10/30/55 TIME(GMT) 0526
DEPTH (METERS)
PO4-P
POFI USFWS MAY 1956 T. NAKATA

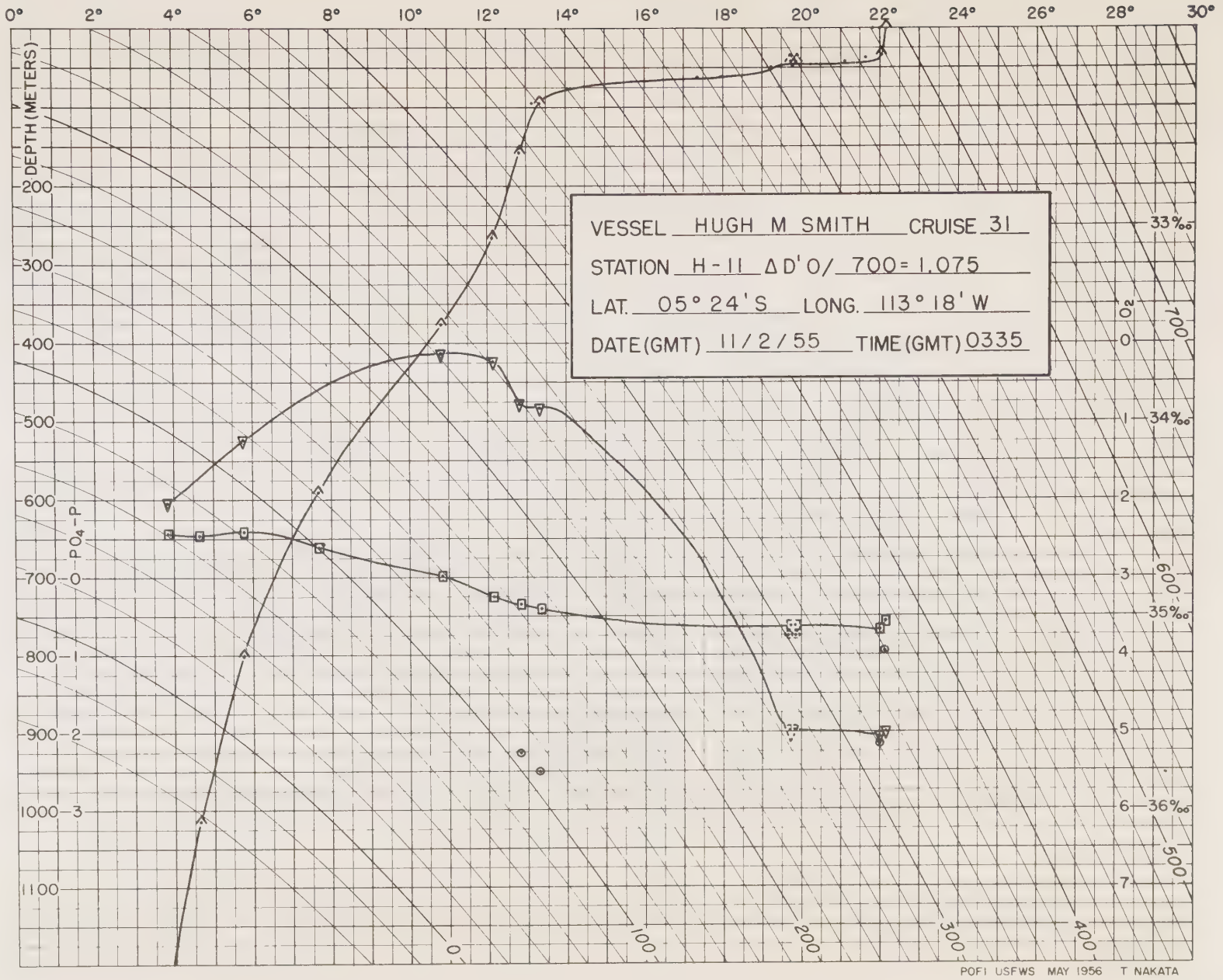

VESSEL HUGH M SMITH CRUISE 31
STATION H-6 ΔD' O/ 700 = 1.098
LAT. 01° 04' N LONG. 111° 33' W
DATE (GMT) 10/30/55 TIME (GMT) 1538
DEPTH (METERS)
PO4-P
O2
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T. NAKATA

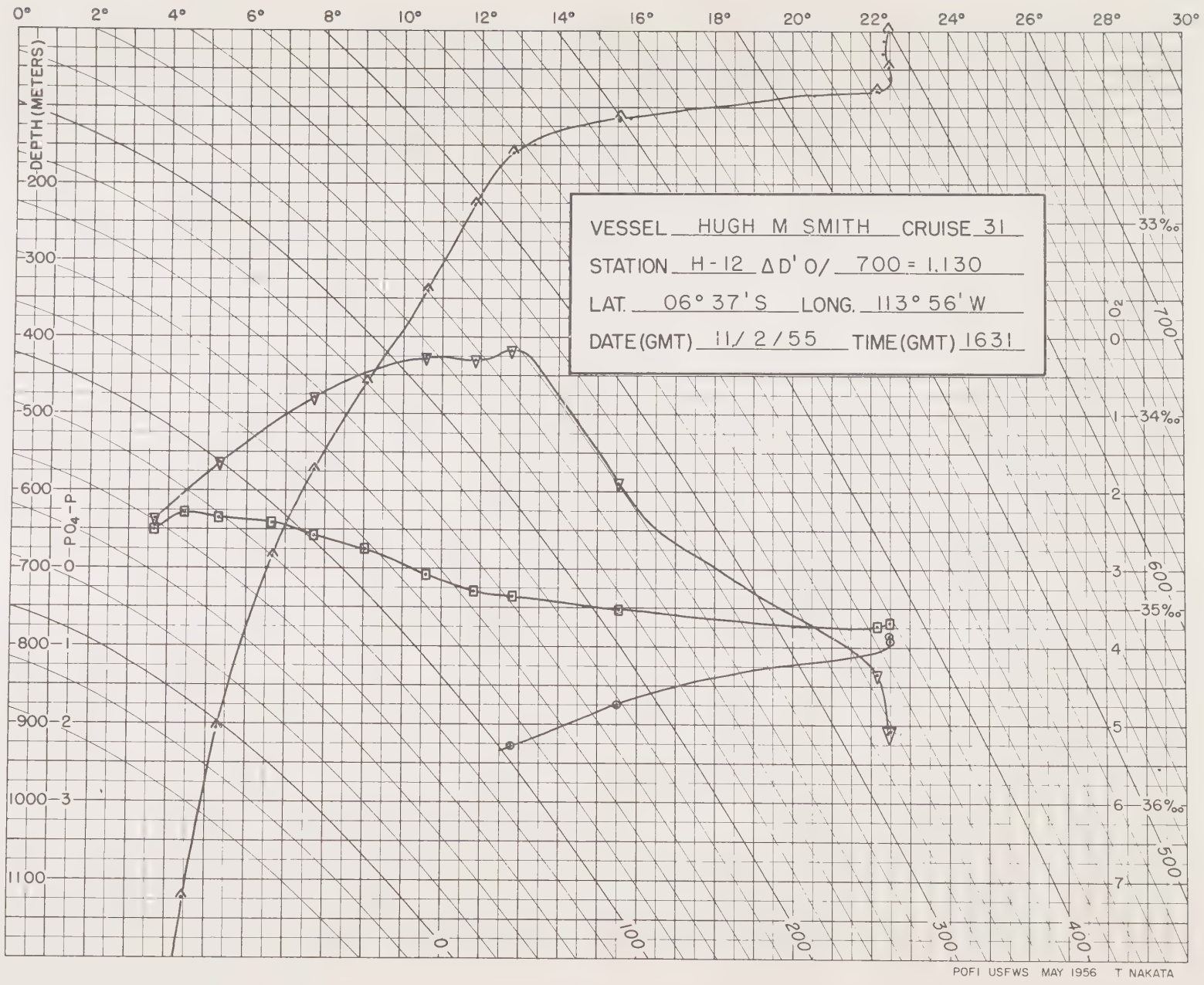

VESSEL HUGH M SMITH CRUISE 31
STATION H-7 ΔD'O/700 = 1.026
LAT. 00° 12'S LONG. 112° 25' W
DATE(GMT) 10/31/55 TIME(GMT) 0227
DEPTH (METERS)
PO4-P
0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T. NAKATA

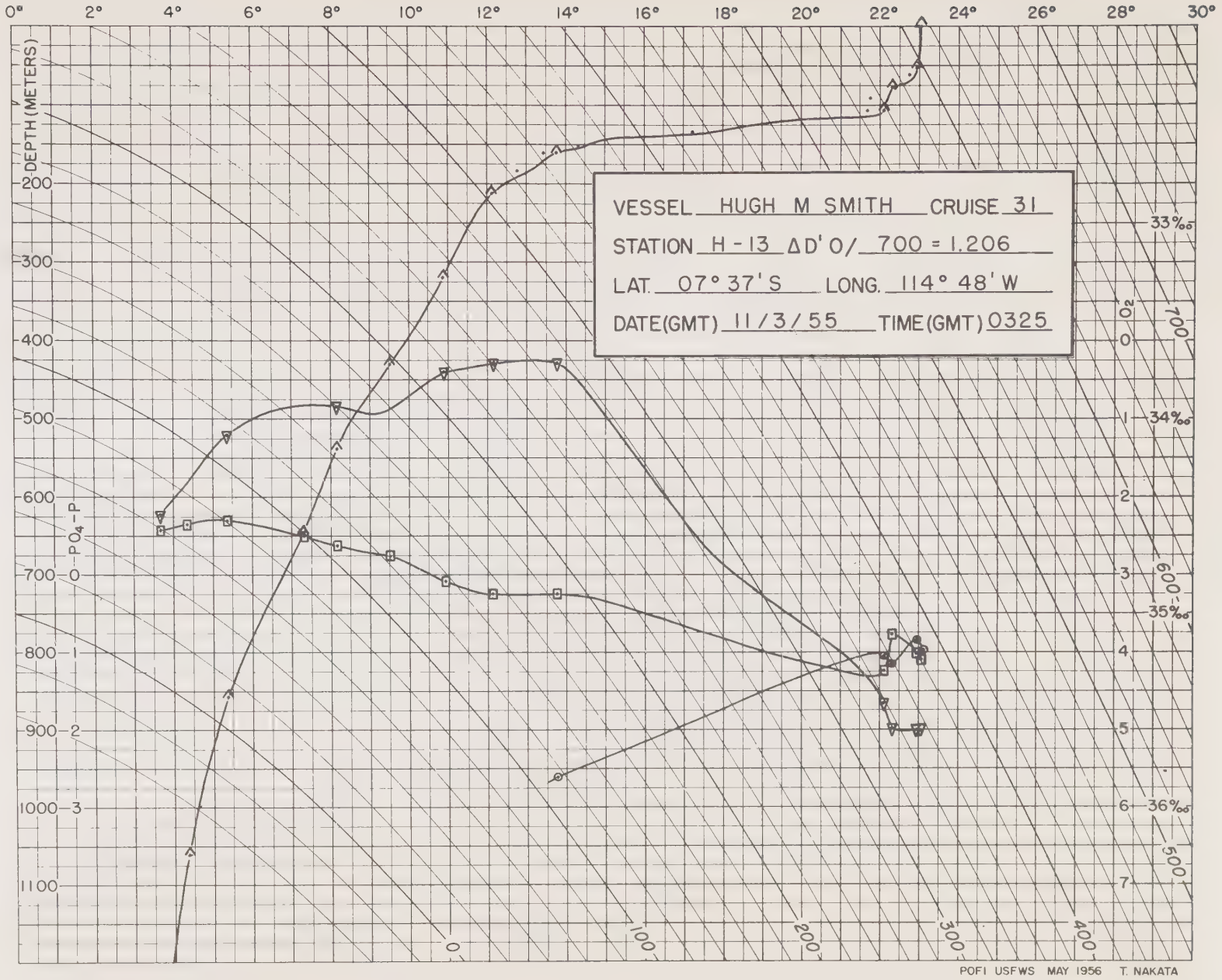

VESSEL HUGH M SMITH CRUISE 31
STATION H-8 ΔD' O/ 700 = 1.005
LAT. 01° 23' S LONG. 112° 46' W
DATE (GMT) 10/31/55 TIME (GMT) 1632
DEPTH (METERS)
0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
100 200 300 400 500 600 700 800 900 1000 1100
33‰ 34‰ 35‰ 36‰
0 1 2 3 4 5 6 7
POFI USFWS MAY 1956 T NAKATA

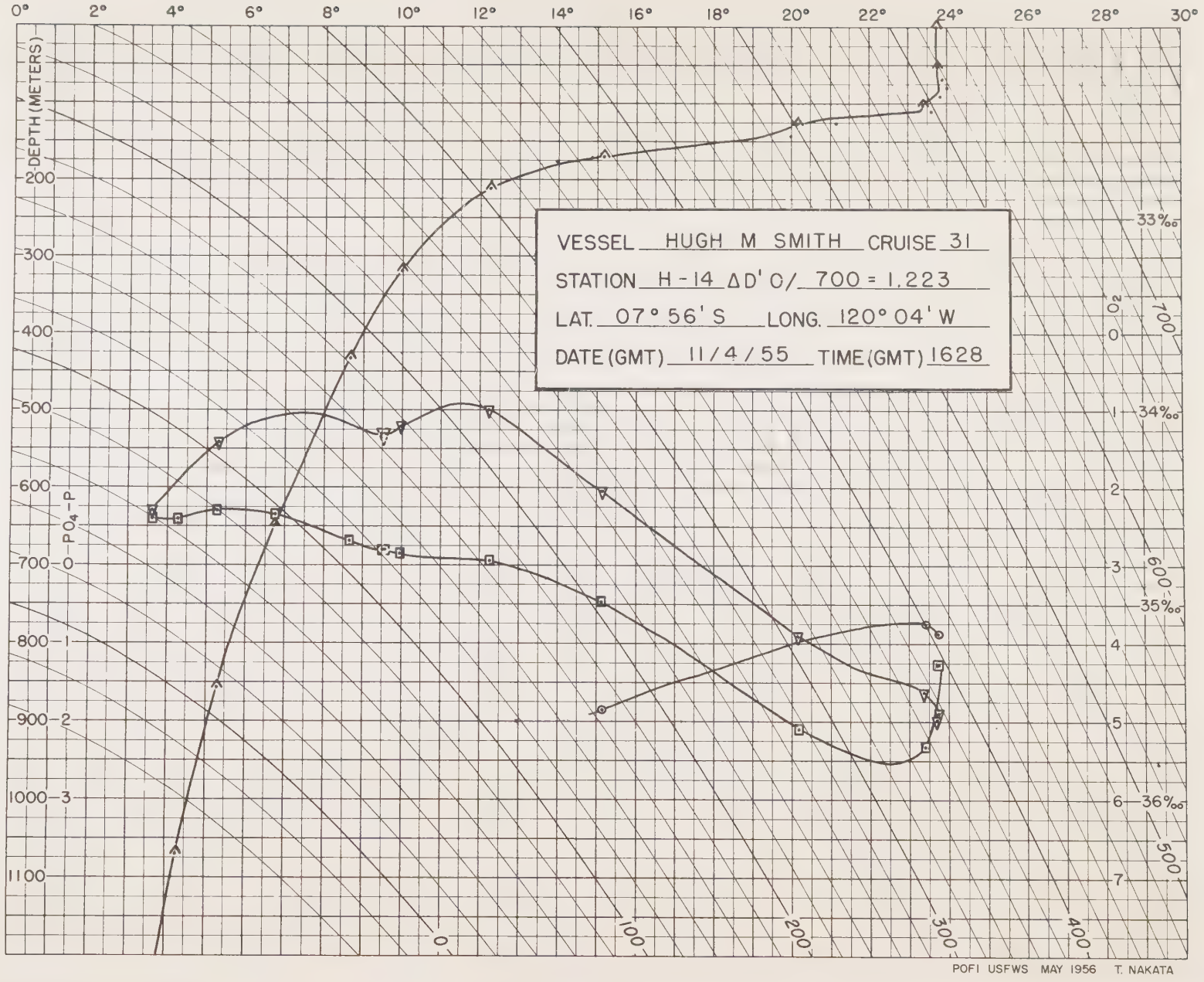

VESSEL HUGH M SMITH CRUISE 31
STATION H-9 ΔD' O/ 700 = 0.979
LAT. 02° 54' S LONG. 113° 08' W
DATE(GMT) 11/1/55 TIME(GMT) 0329
DEPTH (METERS)
PO4-P
POFI USFWS MAY 1956 T NAKATA

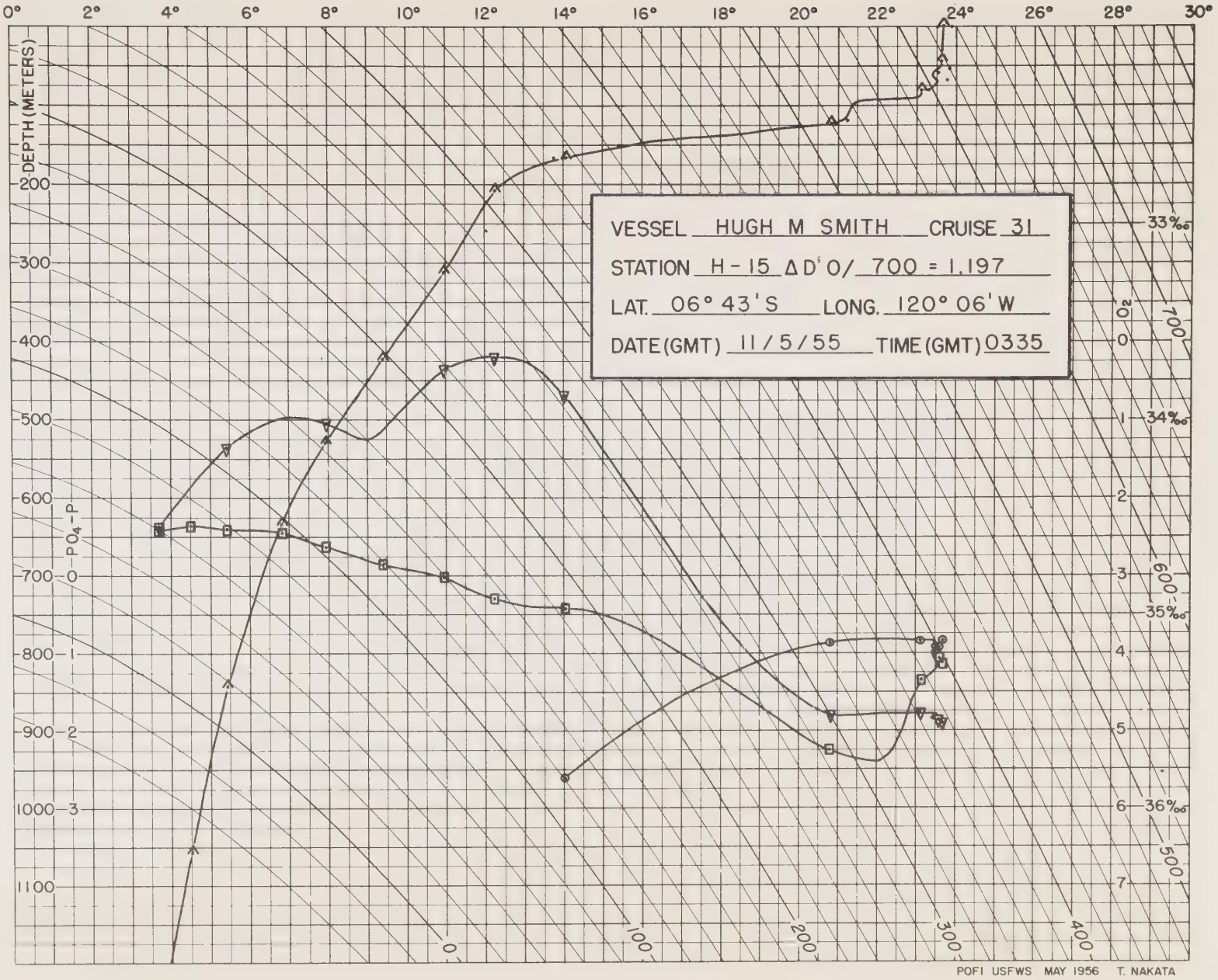

VESSEL HUGH M SMITH CRUISE 31
STATION H-10 ΔD' O/ 700 = 0.984
LAT. 04° 24' S LONG. 113° 00' W
DATE (GMT) 11/1/55 TIME (GMT) 1632
DEPTH (METERS)
PO4-P
0°
2°
4°
6°
8°
10°
12°
14°
16°
18°
20°
22°
24°
26°
28°
30°
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T. NAKATA

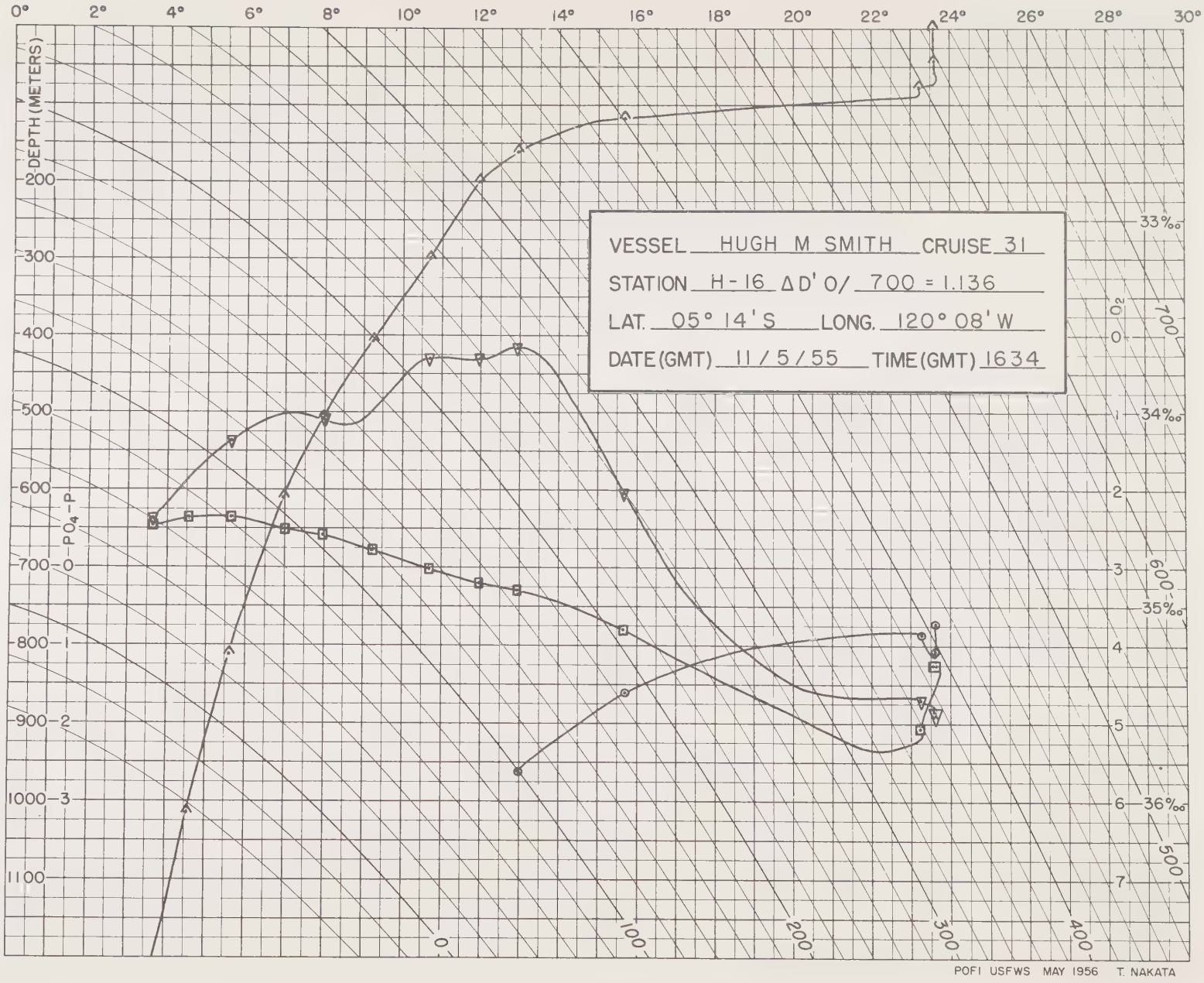

VESSEL HUGH M SMITH CRUISE 31
STATION H-11 ΔD'O/700=1.075
LAT. 05° 24'S LONG. 113° 18'W
DATE (GMT) 11/2/55 TIME (GMT) 0335
DEPTH (METERS)
0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
200 300 400 500 600 700 800 900 1000 1100
0 1 2 3 4 5 6 7
33‰ 34‰ 35‰ 36‰
0 100 200 300 400 500 600 700
POFI USFWS MAY 1956 T NAKATA

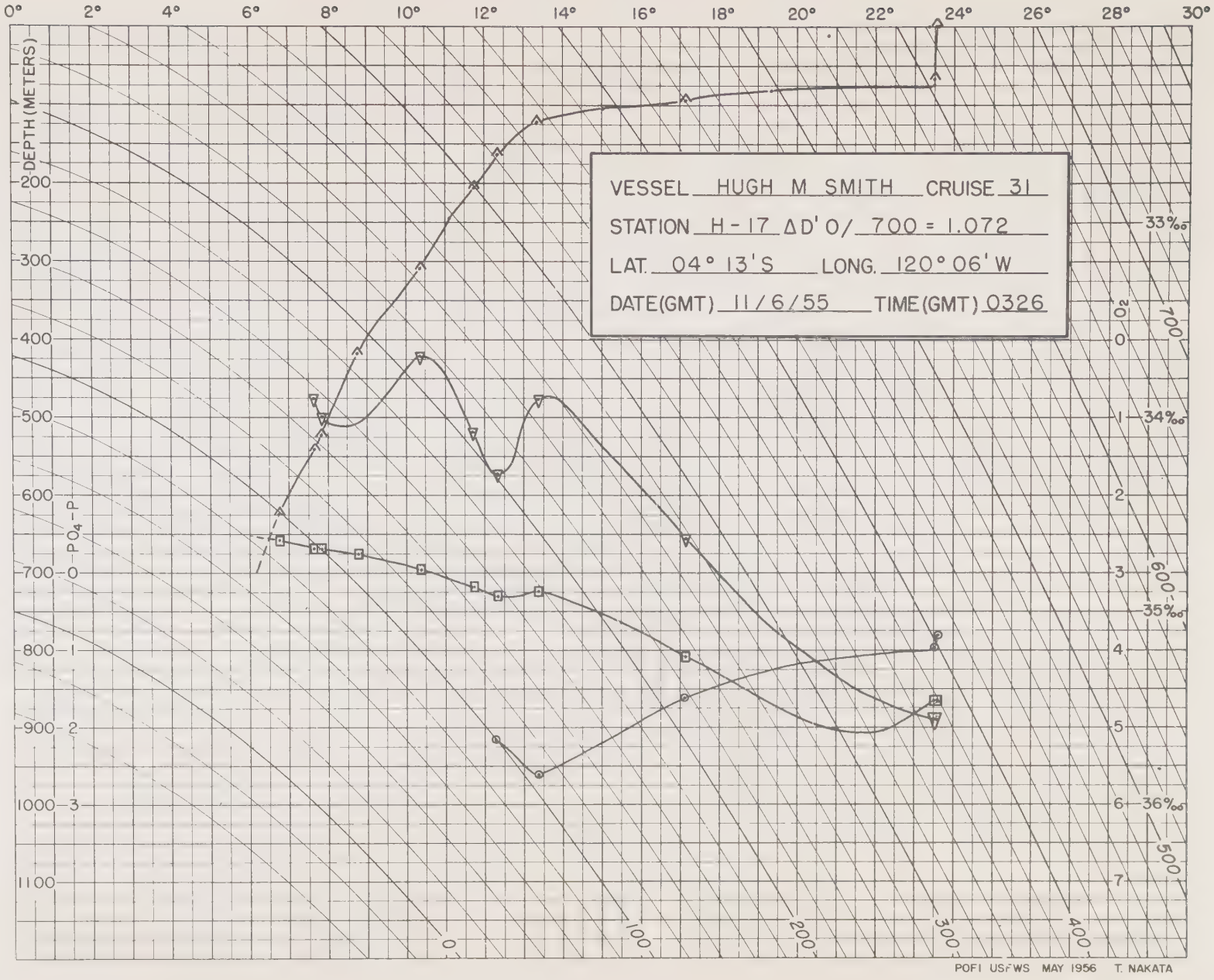

VESSEL HUGH M SMITH CRUISE 31
STATION H-12 ΔD' O/ 700 = 1.130
LAT. 06° 37' S LONG. 113° 56' W
DATE (GMT) 11/2/55 TIME (GMT) 1631
DEPTH (METERS)
PO4-P
POFI USFWS MAY 1956 T NAKATA

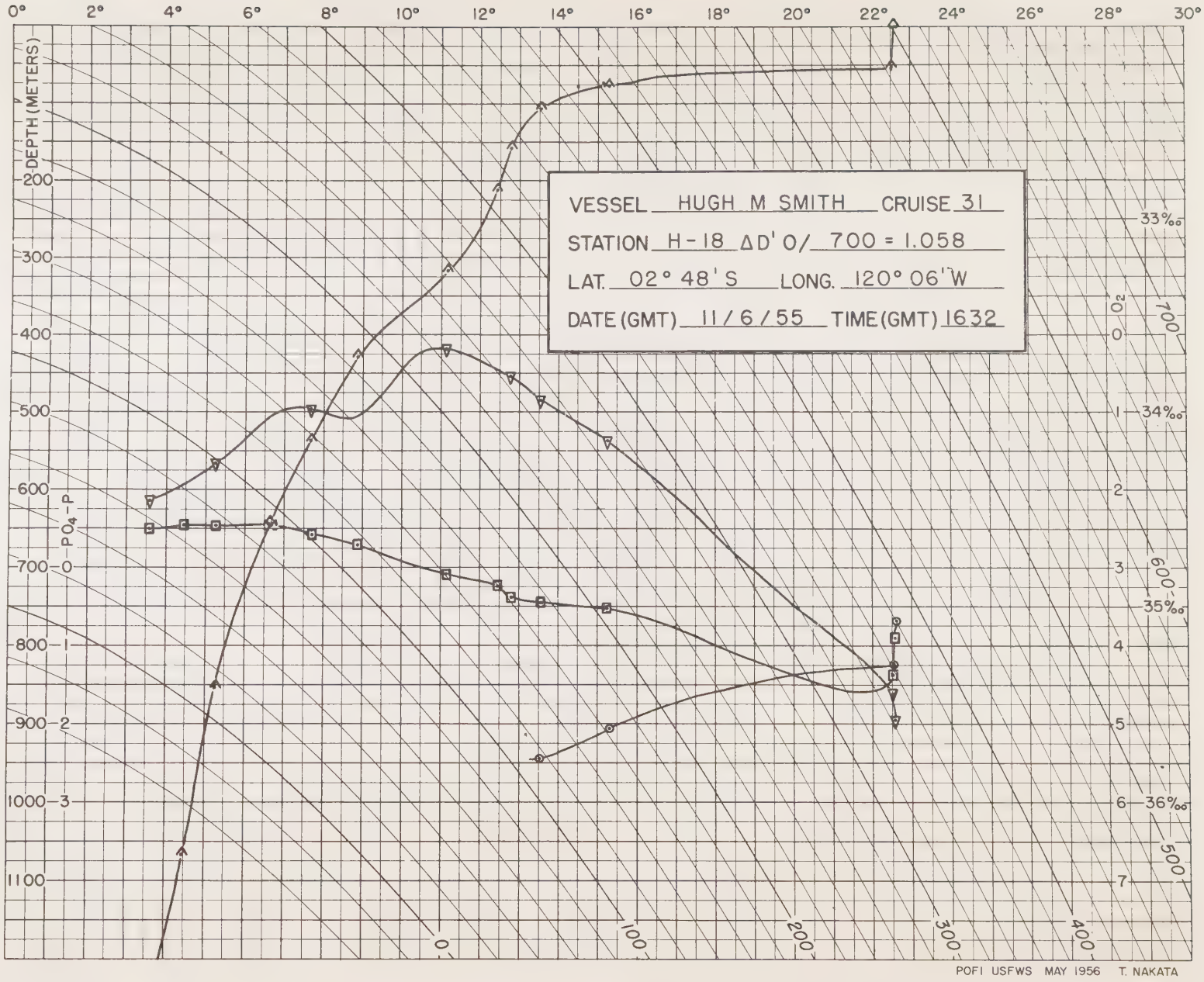

VESSEL HUGH M SMITH CRUISE 31
STATION H-13 ΔD' O/ 700 = 1.206
LAT. 07° 37' S LONG. 114° 48' W
DATE(GMT) 11/3/55 TIME(GMT) 0325
DEPTH (METERS)
PO4-P
POFI USFWS MAY 1956 T. NAKATA

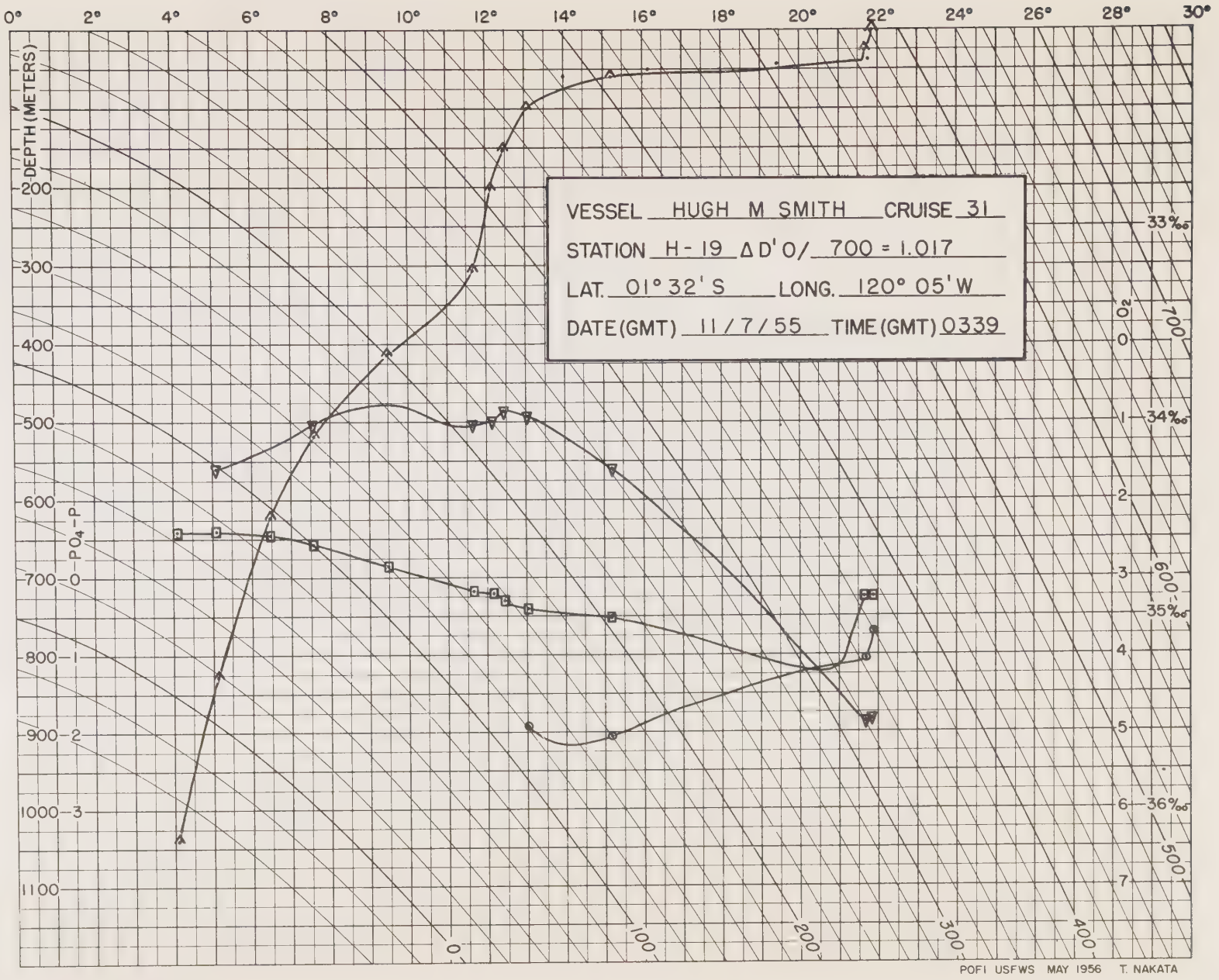

VESSEL HUGH M SMITH CRUISE 31
STATION H-14 ΔD' C/ 700 = 1.223
LAT. 07° 56' S LONG. 120° 04' W
DATE (GMT) 11/4/55 TIME (GMT) 1628
DEPTH (METERS)
PO4-P
0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T. NAKATA

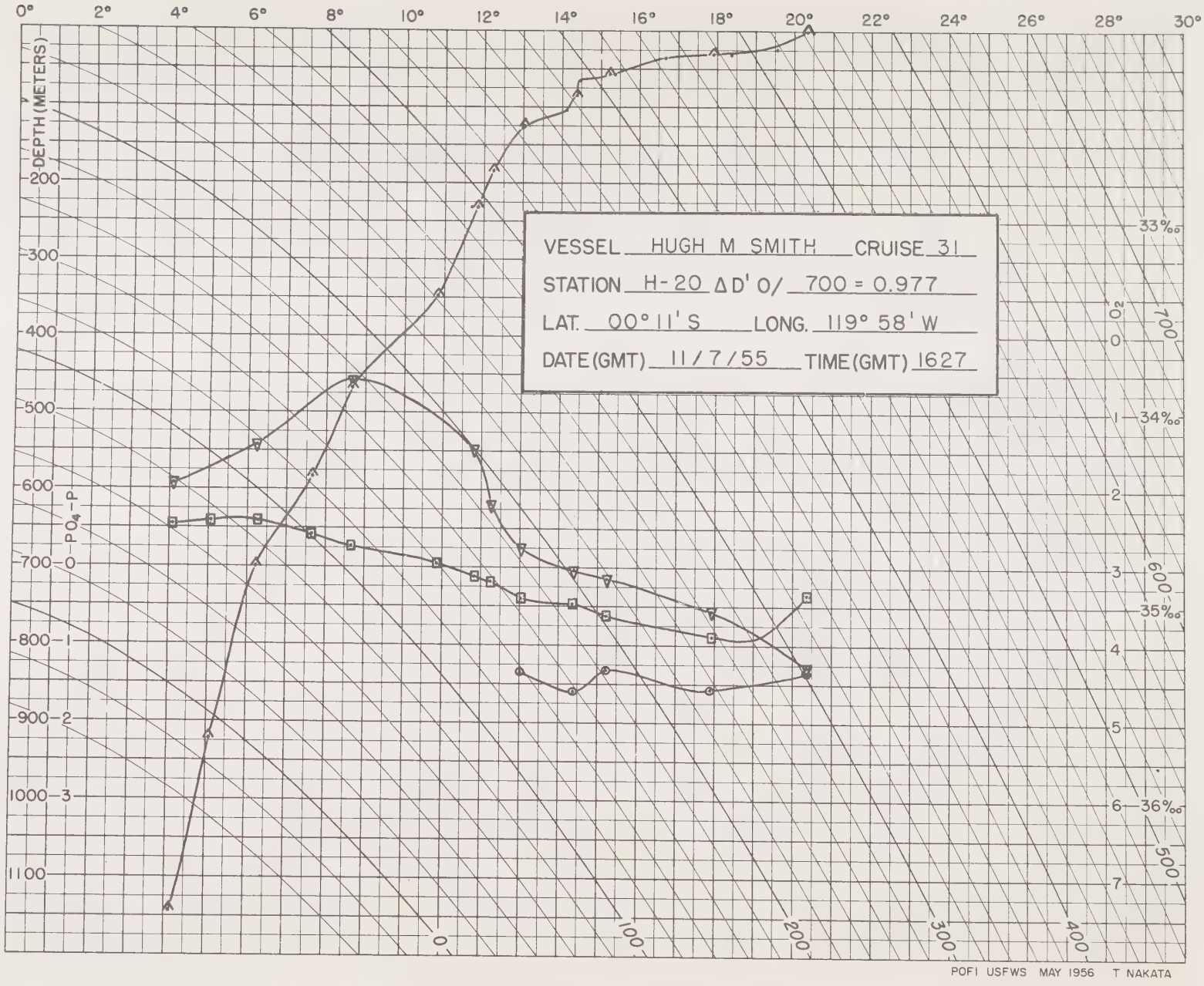

0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
DEPTH (METERS)
200
300
400
500
600
700
800
900
1000
1100
dynamic depth
0
1
2
3
VESSEL HUGH M SMITH CRUISE 31
STATION H-15 ΔD' 0/700 = 1.197
LAT. 06° 43' S LONG. 120° 06' W
DATE (GMT) 11/5/55 TIME (GMT) 0335
33‰
34‰
35‰
36‰
20
0
1
2
3
4
5
6
7
700
600
500
400
300
200
100
0
POFI USFWS MAY 1956 T. NAKATA

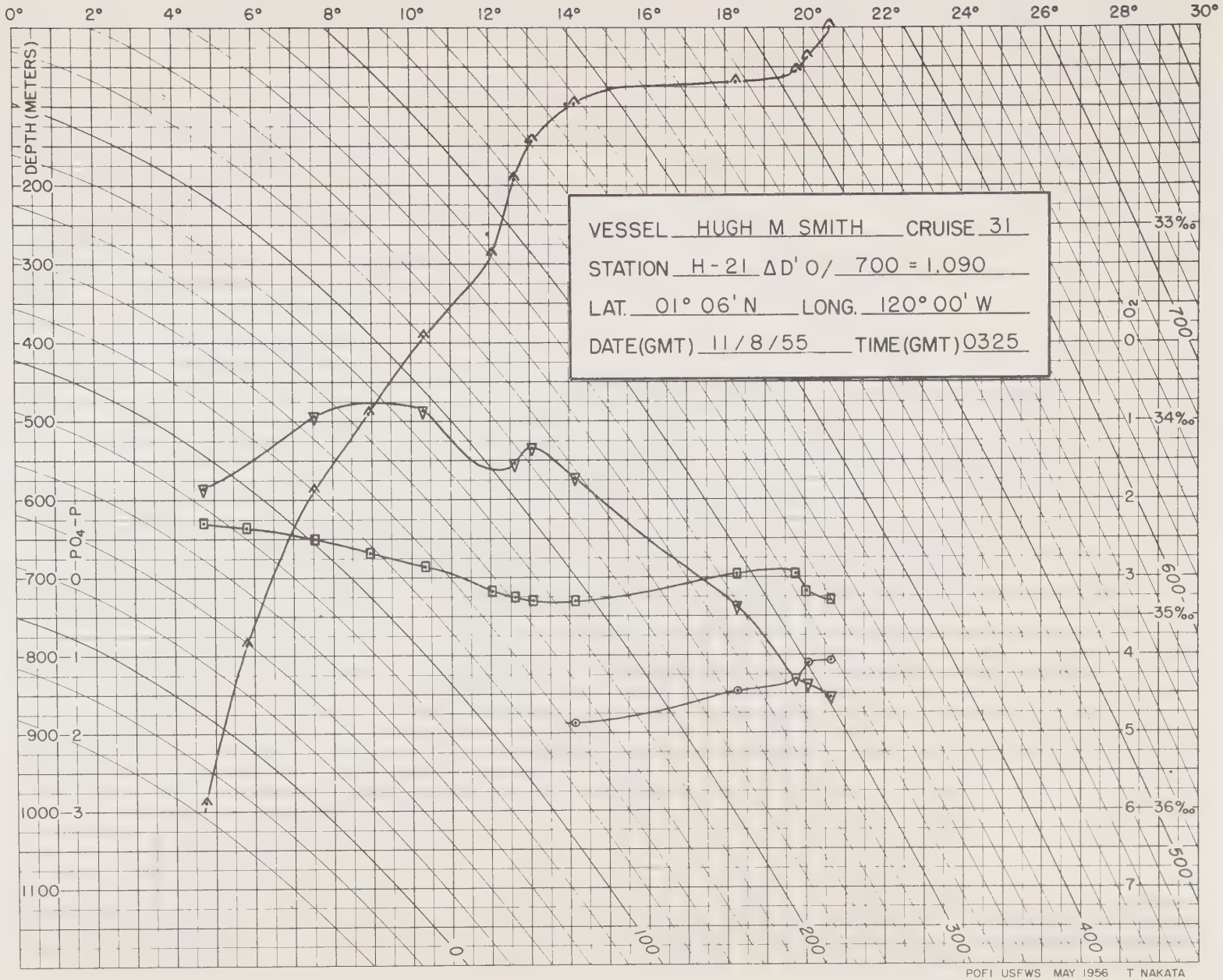

VESSEL HUGH M SMITH CRUISE 31
STATION H-16 ΔD' O/ 700 = 1.136
LAT. 05° 14' S LONG. 120° 08' W
DATE (GMT) 11/5/55 TIME (GMT) 1634
DEPTH (METERS)
PO_4-P
POFI USFWS MAY 1956 T. NAKATA

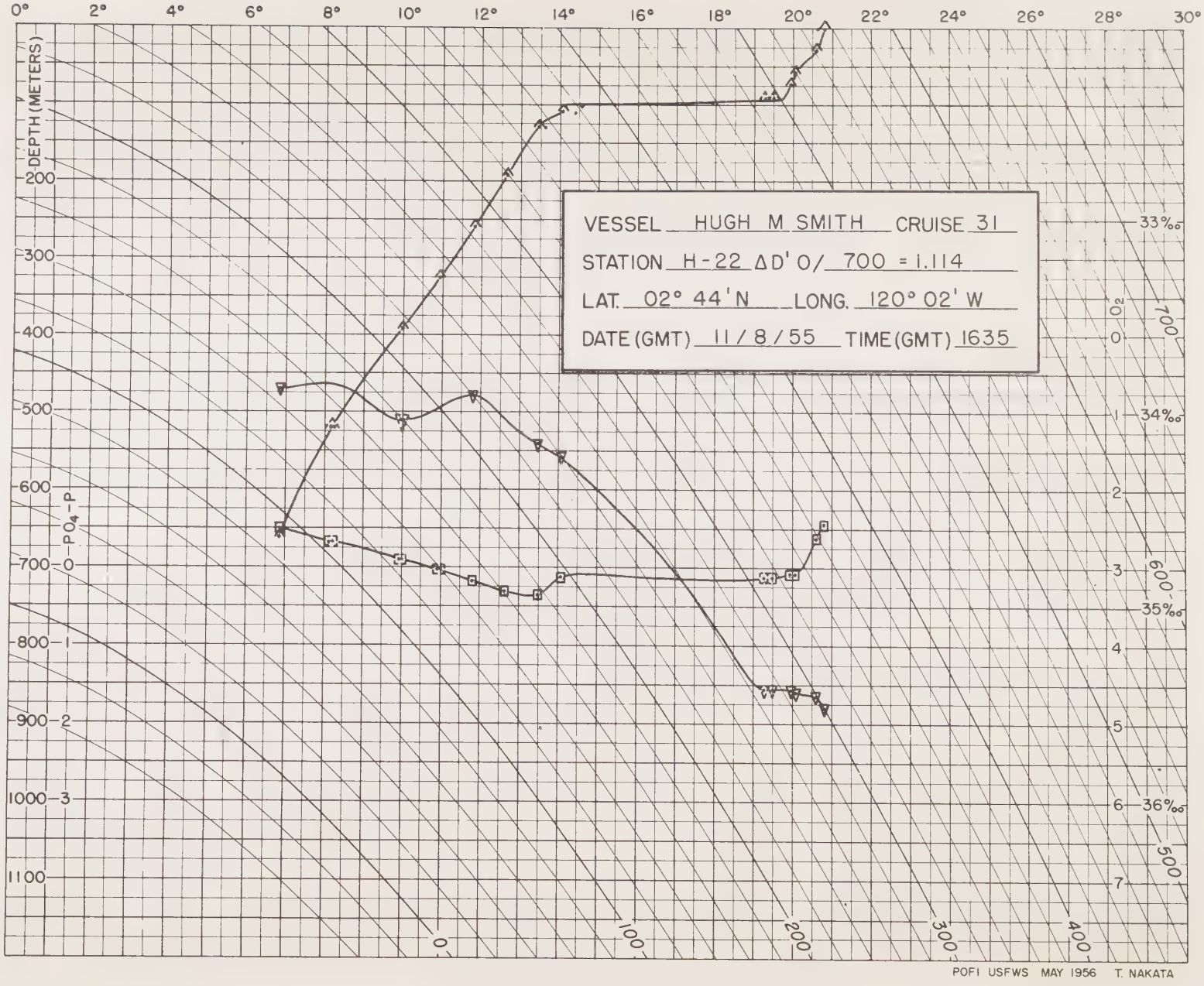

VESSEL HUGH M SMITH CRUISE 31
STATION H-17 ΔD' O/ 700 = 1.072
LAT. 04° 13'S LONG. 120° 06' W
DATE(GMT) 11/6/55 TIME(GMT) 0326
DEPTH (METERS)
PO4-P
POFI USFWS MAY 1956 T. NAKATA

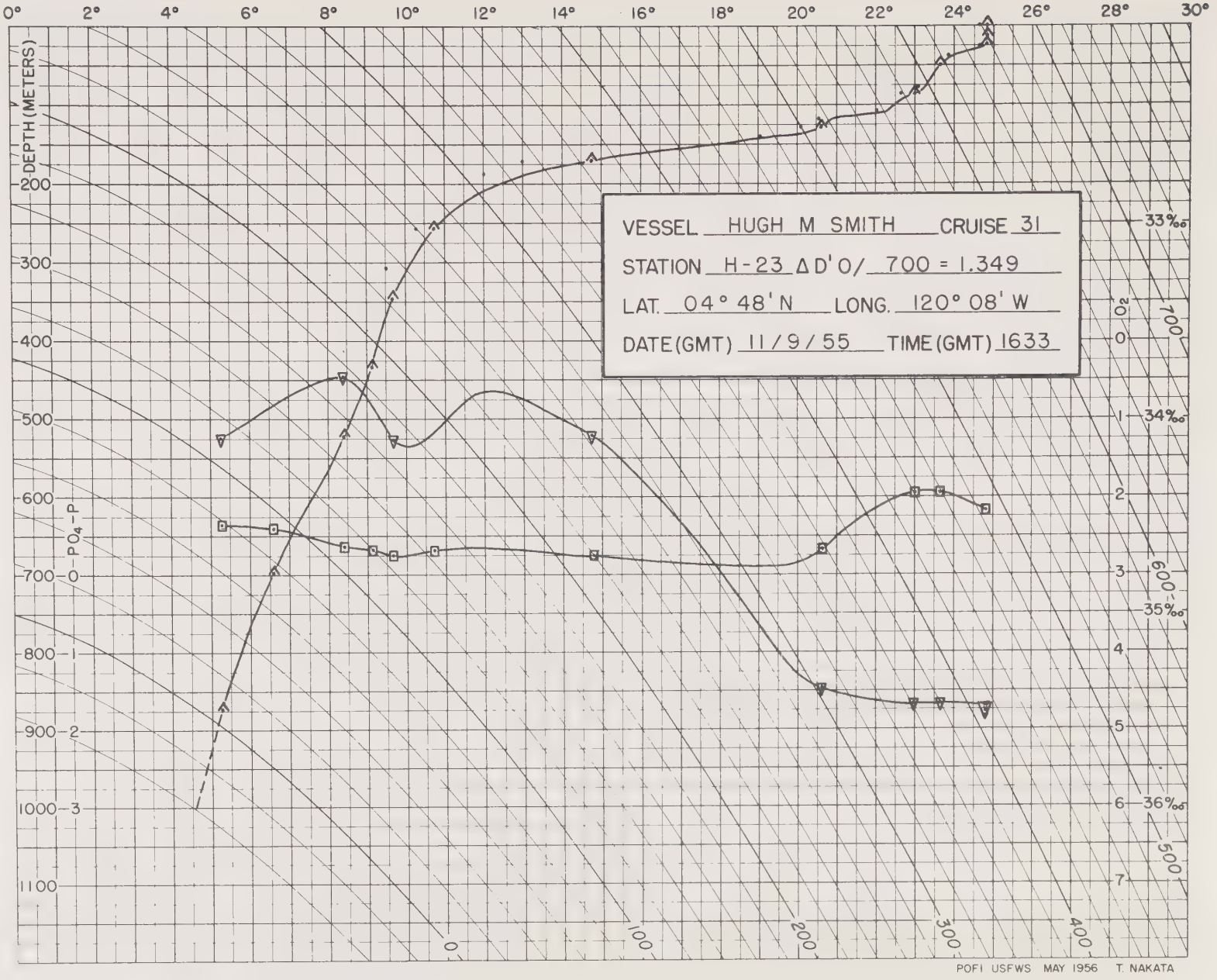

VESSEL HUGH M SMITH CRUISE 31
STATION H-18 ΔD' O/ 700 = 1.058
LAT. 02° 48' S LONG. 120° 06' W
DATE (GMT) 11/6/55 TIME (GMT) 1632
DEPTH (METERS)
PO4-P
POFI USFWS MAY 1956 T. NAKATA

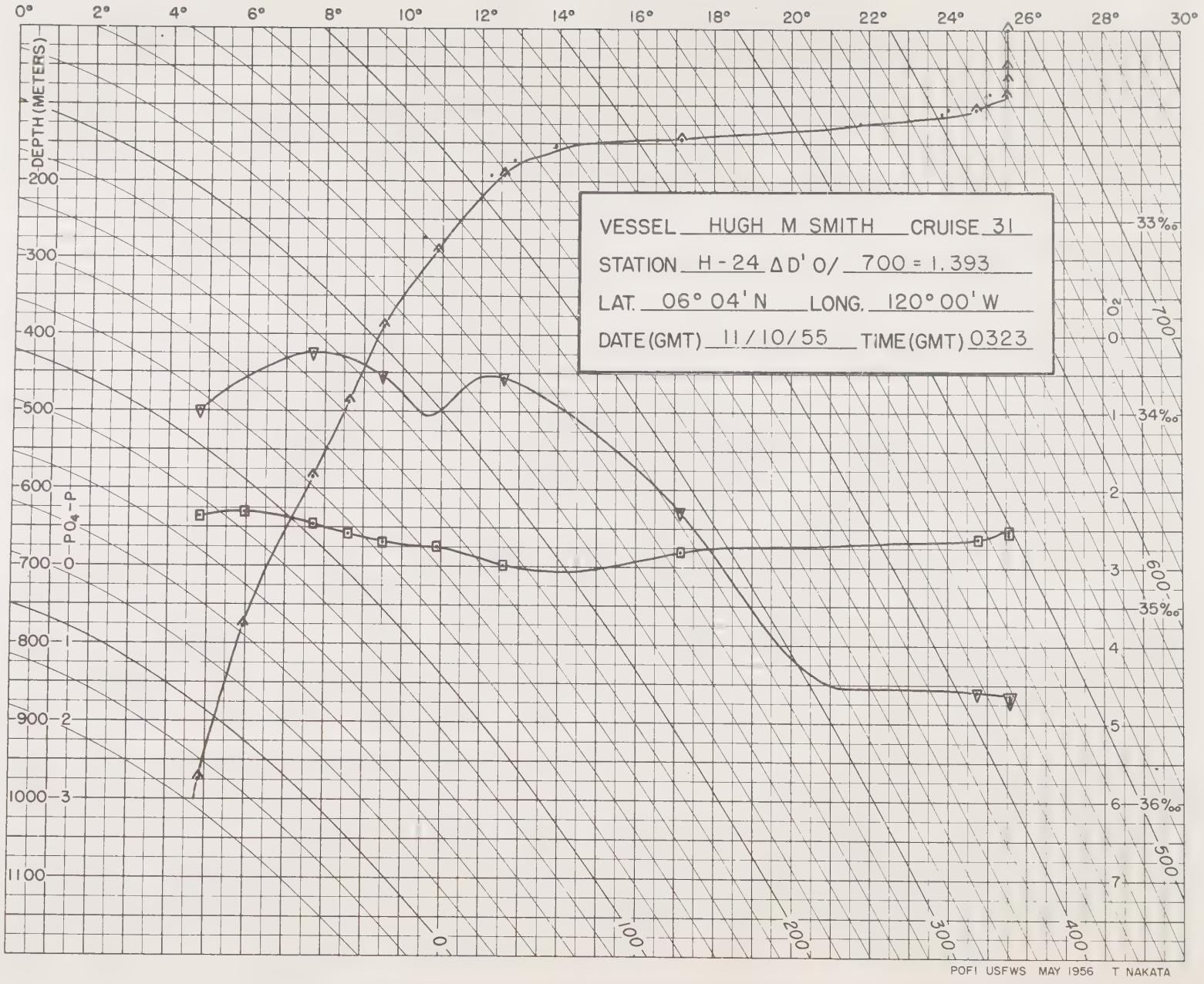

0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
DEPTH (METERS)
200
300
400
500
600
700
800
900
1000
1100
PO4-P
0
1
2
3
VESSEL HUGH M SMITH CRUISE 31
STATION H-19 ΔD'O/700 = 1.017
LAT. 01° 32' S LONG. 120° 05' W
DATE (GMT) 11/7/55 TIME (GMT) 0339
33‰
34‰
35‰
36‰
O2
0
1
2
3
4
5
6
7
700
600
500
400
300
200
100
0
POFI USFWS MAY 1956 T. NAKATA

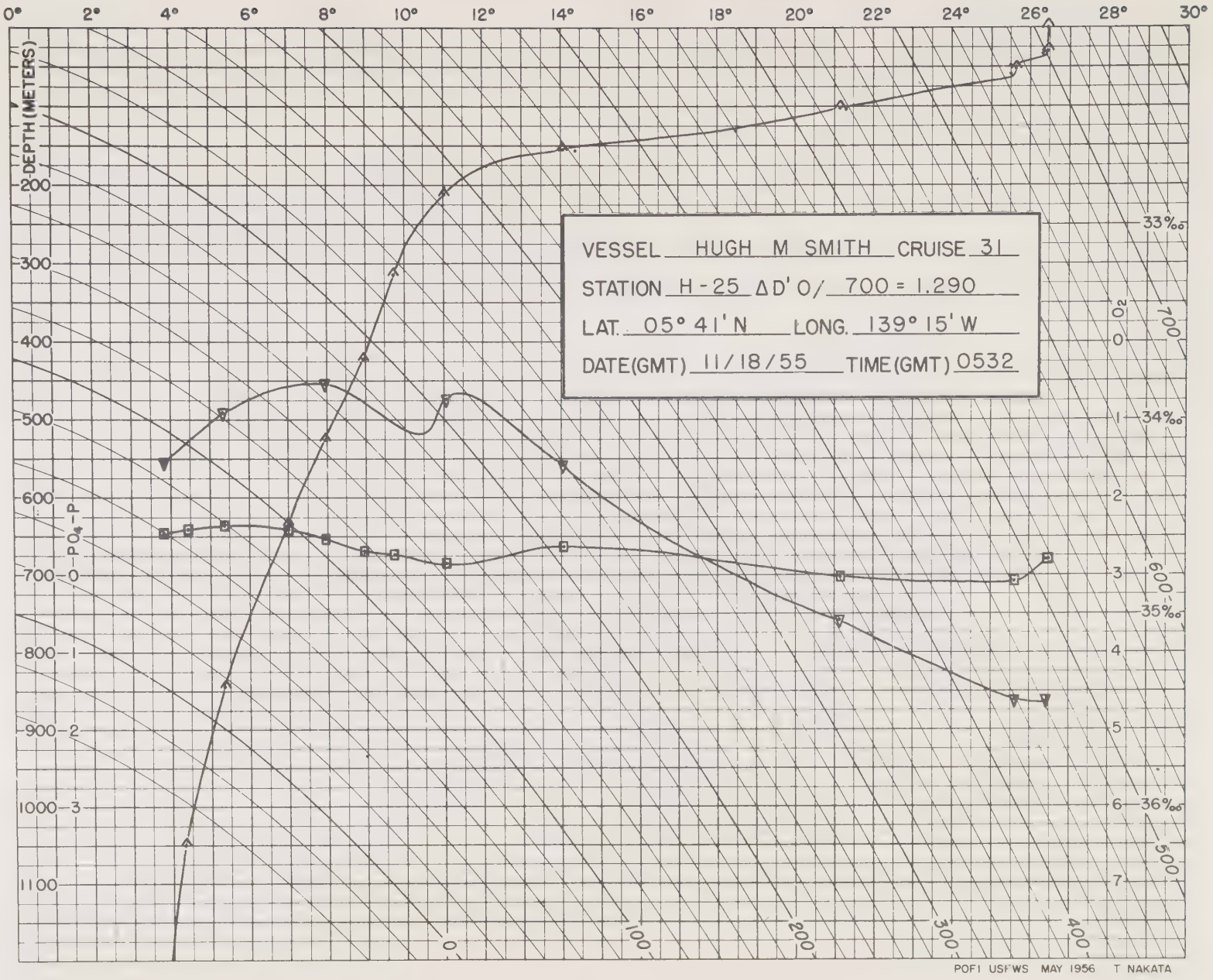

0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
DEPTH (METERS)
200
300
400
500
600
700
800
900
1000
1100
PO4-P
0
1
2
3
4
5
6
7
33‰
34‰
35‰
36‰
σt
0
1
2
3
600
500
0
100
200
300
400
VESSEL HUGH M SMITH CRUISE 31
STATION H-20 ΔD' O/ 700 = 0.977
LAT. 00° 11' S LONG. 119° 58' W
DATE (GMT) 11/7/55 TIME (GMT) 1627
POFI USFWS MAY 1956 T NAKATA

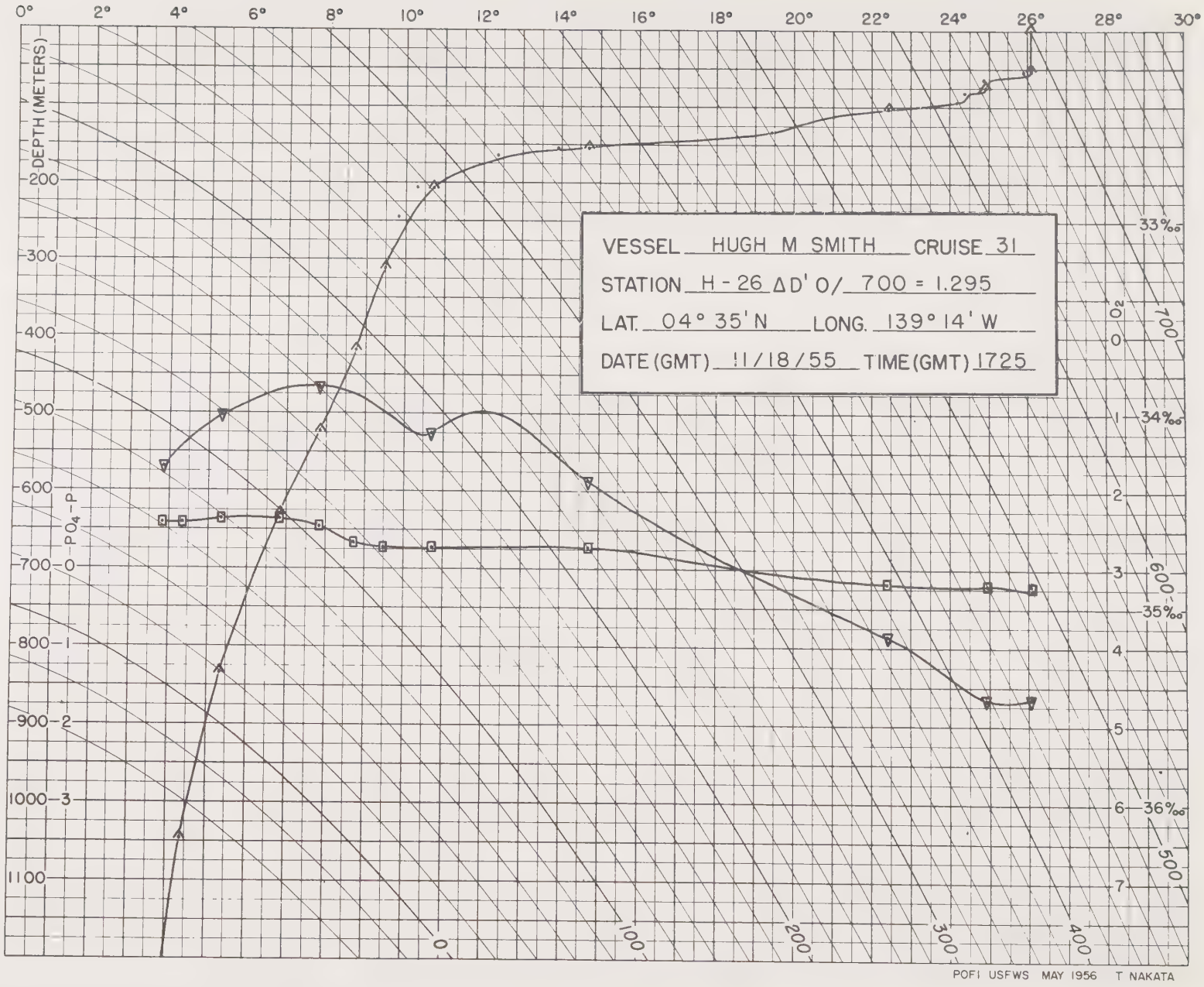

VESSEL HUGH M SMITH CRUISE 31
STATION H-21 ΔD' O/ 700 = 1.090
LAT. 01° 06' N LONG. 120° 00' W
DATE(GMT) 11/8/55 TIME(GMT) 0325
DEPTH (METERS)
PO4-P
0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T NAKATA

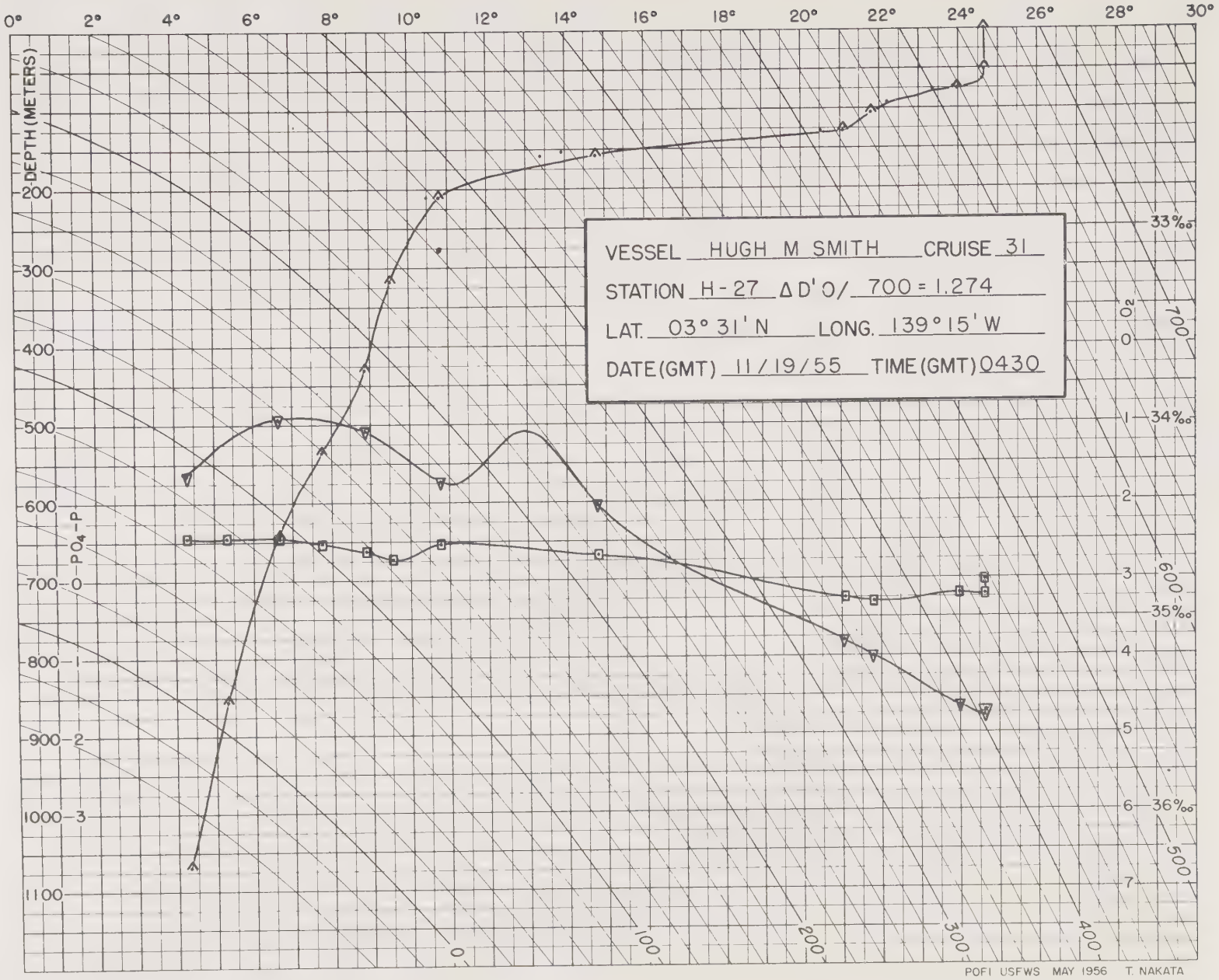

VESSEL HUGH M SMITH CRUISE 31
STATION H-22 ΔD' O/ 700 = 1.114
LAT. 02° 44' N LONG. 120° 02' W
DATE (GMT) 11/8/55 TIME (GMT) 1635
DEPTH (METERS)
PO4-P
O2
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T. NAKATA

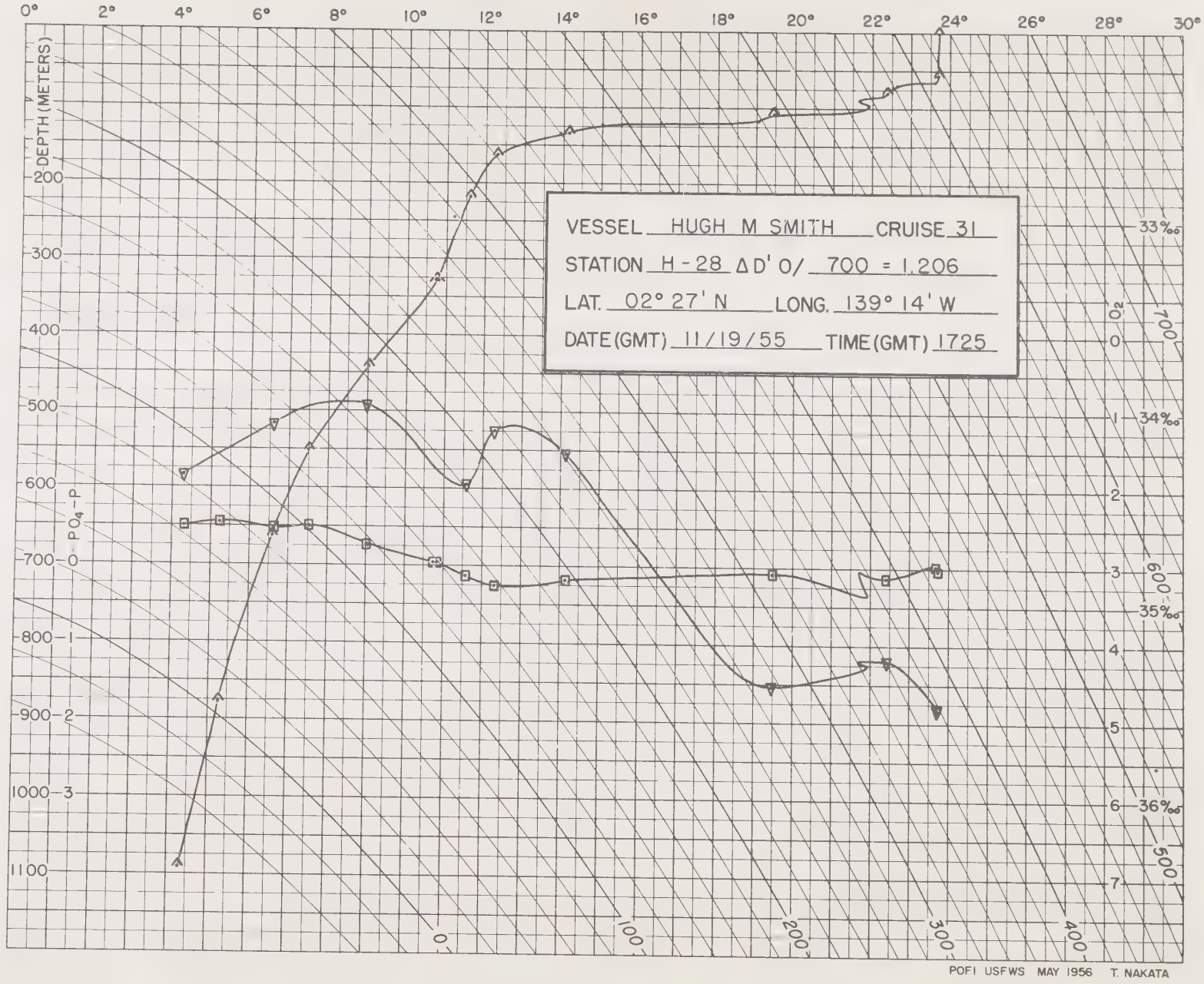

0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
DEPTH (METERS)
100
200
300
400
500
600
700
800
900
1000
1100
PO4-P
0
1
2
3
VESSEL HUGH M SMITH CRUISE 31
STATION H-23 Δ D' O/ 700 = 1.349
LAT. 04° 48' N LONG. 120° 08' W
DATE (GMT) 11/9/55 TIME (GMT) 1633
O2
0
1
2
3
4
5
6
7
33‰
34‰
35‰
36‰
700
600
500
400
300
200
100
0
POFI USFWS MAY 1956 T. NAKATA

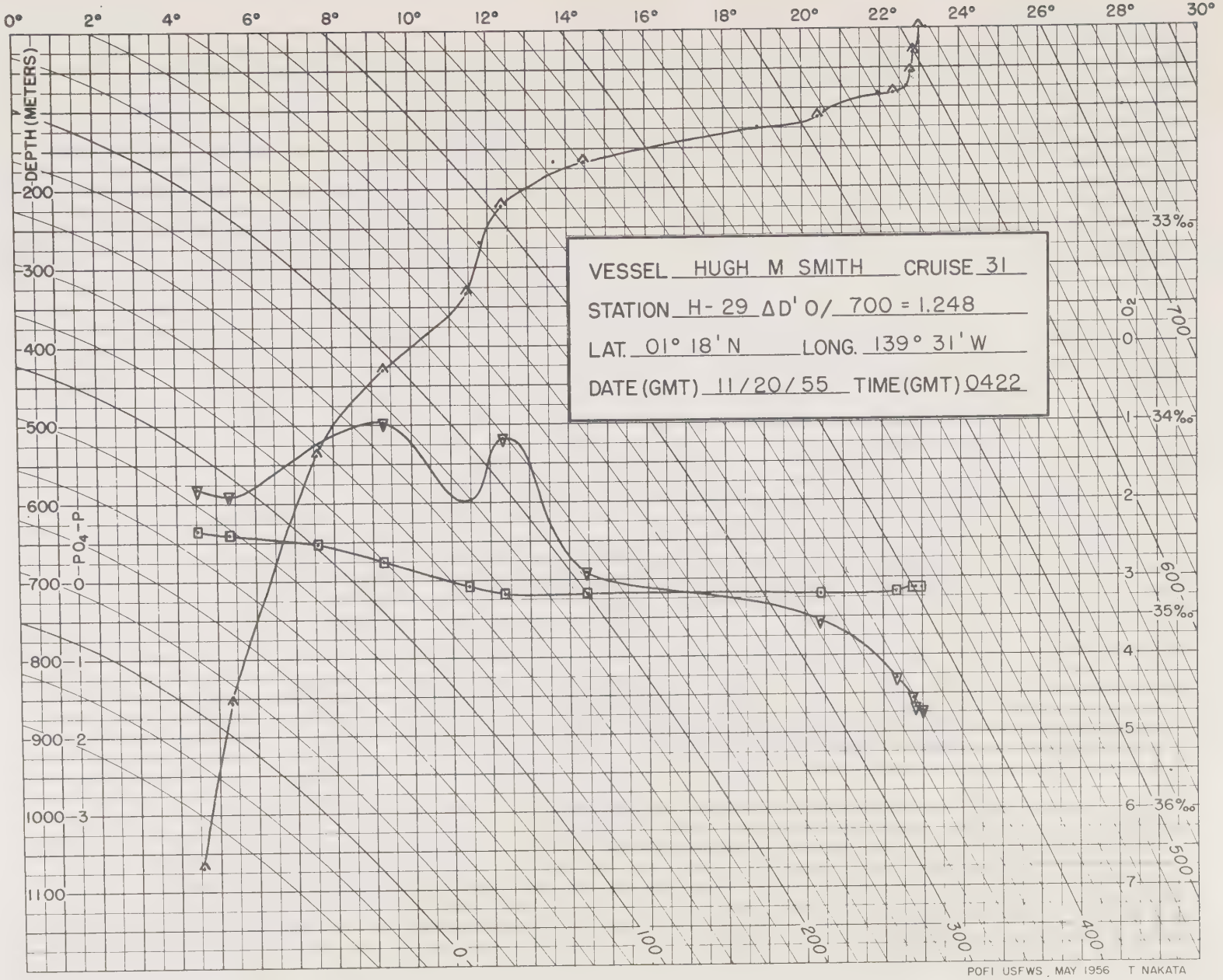

VESSEL HUGH M SMITH CRUISE 31
STATION H-24 ΔD' O/ 700 = 1.393
LAT. 06° 04' N LONG. 120° 00' W
DATE (GMT) 11/10/55 TIME (GMT) 0323
DEPTH (METERS)
PO4-P
O2
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T NAKATA

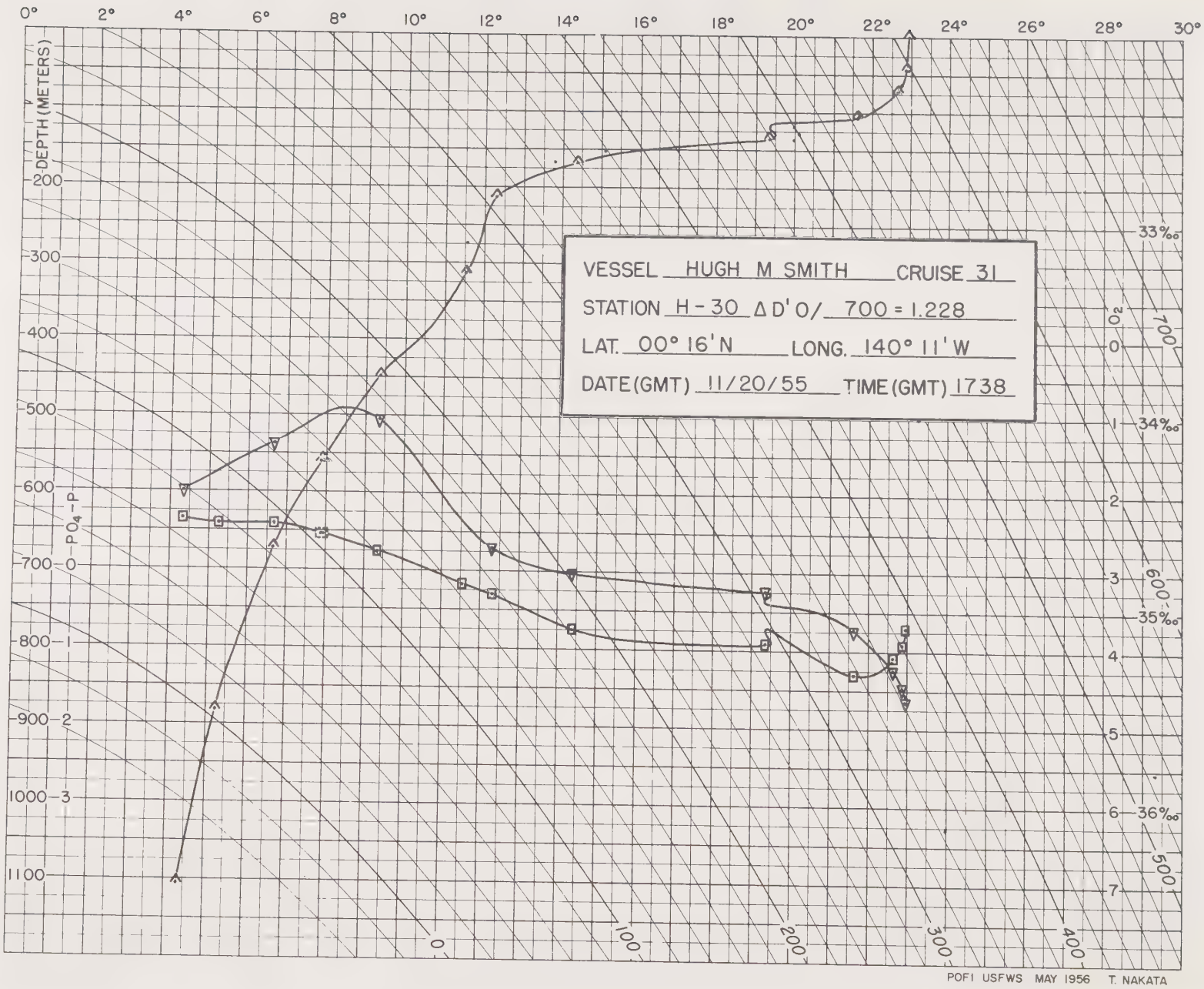

0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
DEPTH (METERS)
100
200
300
400
500
600
700
800
900
1000
1100
PO4-P
0
1
2
VESSEL HUGH M SMITH CRUISE 31
STATION H-25 ΔD' O/ 700 = 1.290
LAT. 05° 41' N LONG. 139° 15' W
DATE(GMT) 11/18/55 TIME(GMT) 0532
33‰
34‰
35‰
36‰
O2
0
1
2
3
4
5
6
7
700
600
500
400
300
200
100
0
POFI USFWS MAY 1956 T NAKATA

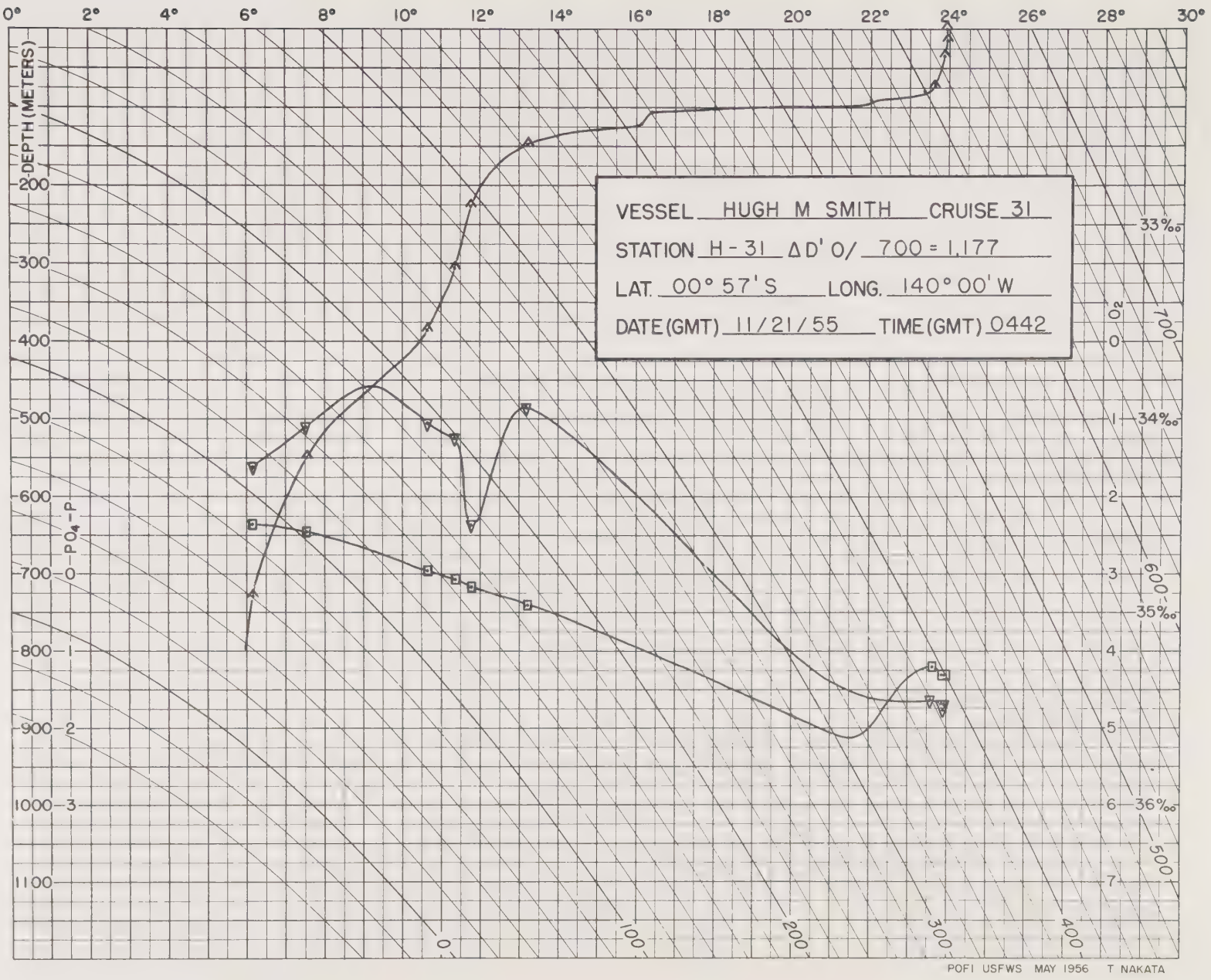

0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
DEPTH (METERS)
200
300
400
500
600
700
800
900
1000
1100
PO4-P
0
1
2
3
VESSEL HUGH M SMITH CRUISE 31
STATION H - 26 ΔD' O/ 700 = 1.295
LAT. 04° 35' N LONG. 139° 14' W
DATE (GMT) 11/18/55 TIME (GMT) 1725
33‰
34‰
35‰
36‰
0
100
200
300
400
500
600
700
POFI USFWS MAY 1956 T NAKATA

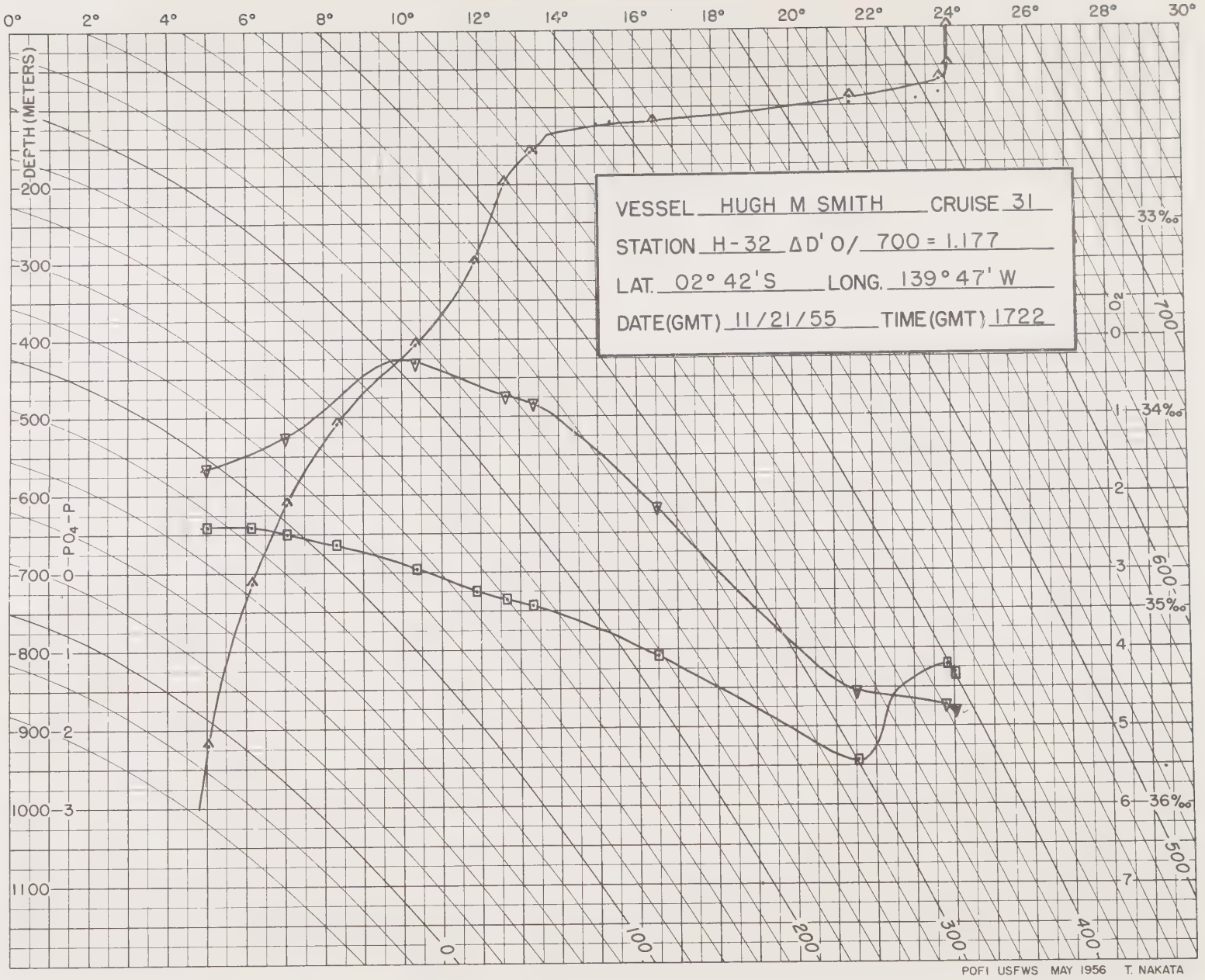

VESSEL HUGH M SMITH CRUISE 31
STATION H-27 ΔD'O/ 700 = 1.274
LAT. 03° 31' N LONG. 139° 15' W
DATE(GMT) 11/19/55 TIME(GMT) 0430
DEPTH (METERS)
PO4-P
O2
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T. NAKATA

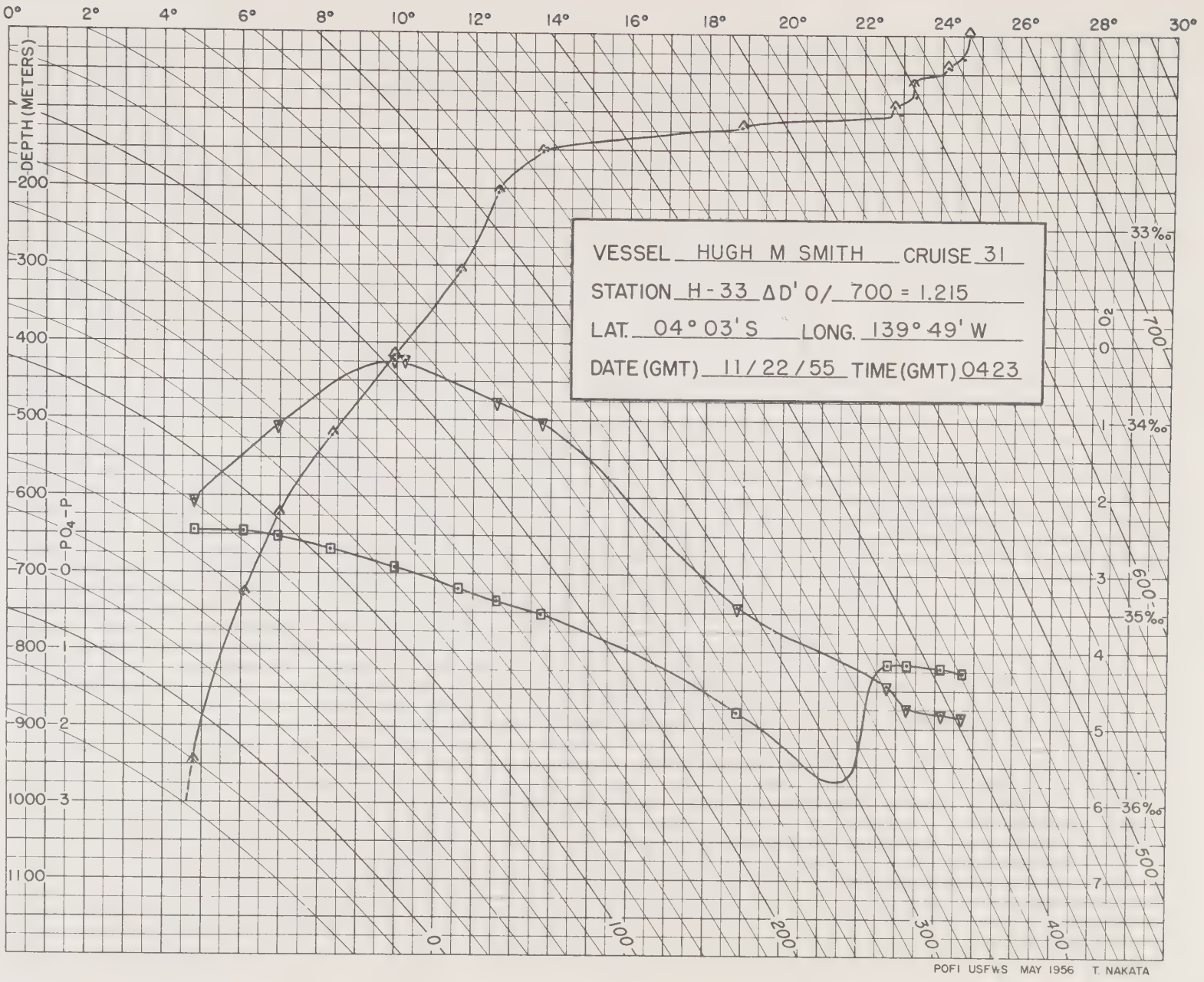

VESSEL HUGH M SMITH CRUISE 31
STATION H-28 ΔD' O/ 700 = 1.206
LAT. 02° 27' N LONG. 139° 14' W
DATE (GMT) 11/19/55 TIME (GMT) 1725
DEPTH (METERS)
PO4-P
0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T. NAKATA

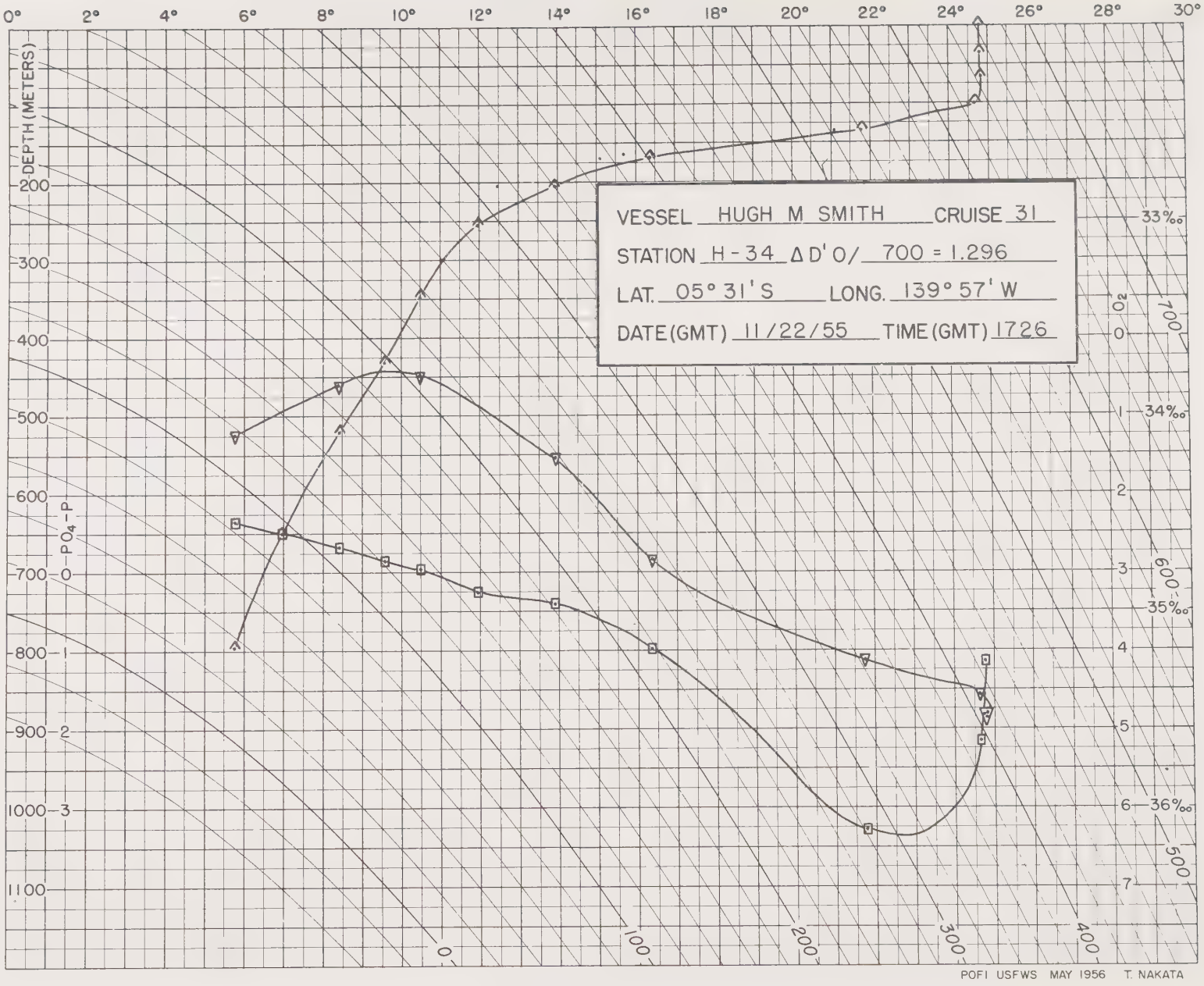

VESSEL HUGH M SMITH CRUISE 31
STATION H-29 ΔD' O/ 700 = 1.248
LAT. 01° 18' N LONG. 139° 31' W
DATE (GMT) 11/20/55 TIME (GMT) 0422
DEPTH (METERS)
PO_4-P
POFI USFWS MAY 1956 T NAKATA

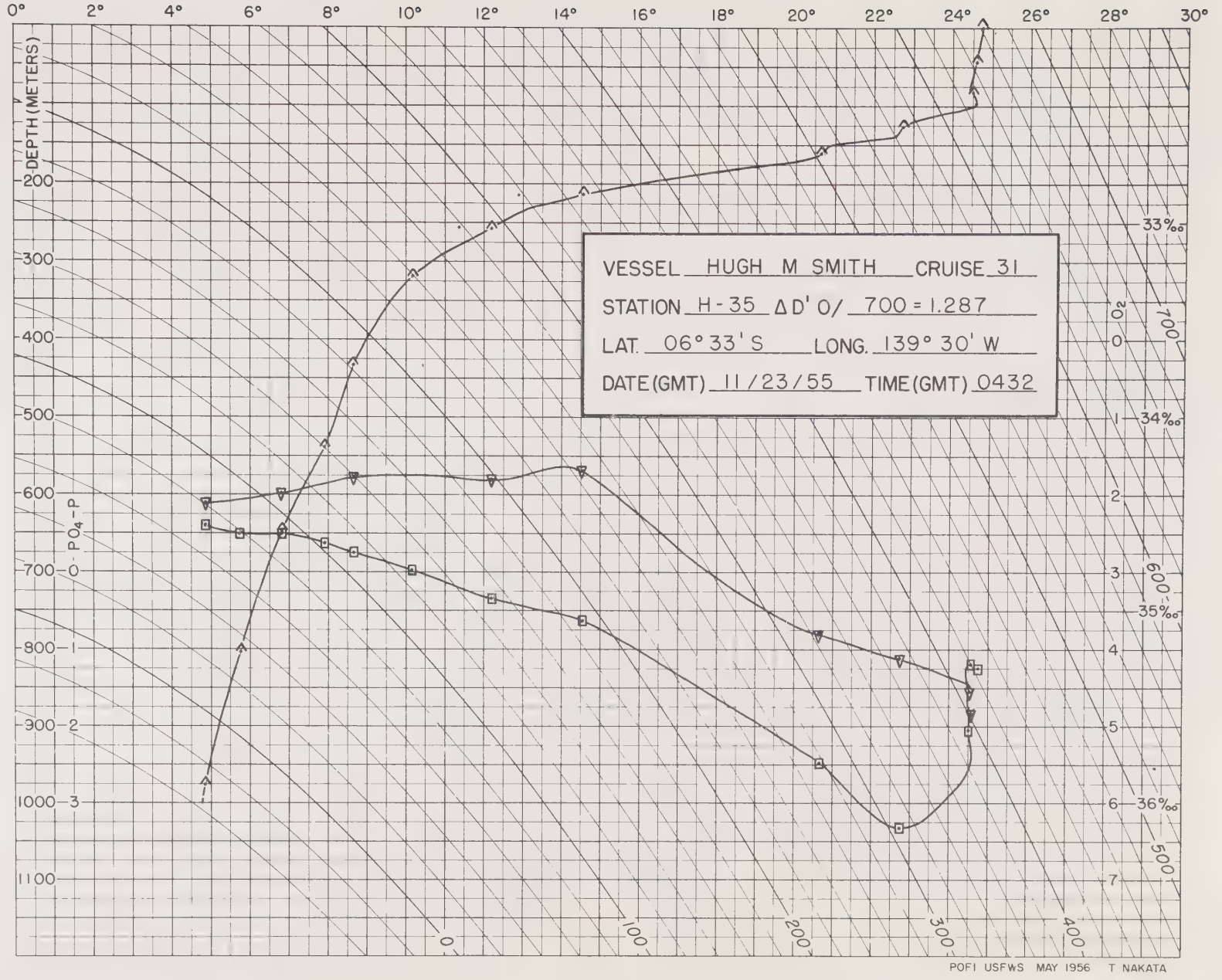

VESSEL HUGH M SMITH CRUISE 31
STATION H-30 ΔD'O/ 700 = 1.228
LAT. 00° 16'N LONG. 140° 11'W
DATE(GMT) 11/20/55 TIME(GMT) 1738
DEPTH (METERS)
PO4-P
POFI USFWS MAY 1956 T. NAKATA


0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
DEPTH (METERS)
200
300
400
500
600
700
800
900
1000
1100
PO_4-P
0
1
2
3
O_2
0
1
2
3
4
5
6
7
33‰
34‰
35‰
36‰
700
600
500
400
300
200
100
0
VESSEL HUGH M SMITH CRUISE 31
STATION H-31 ΔD' O/ 700 = 1,177
LAT. 00° 57' S LONG. 140° 00' W
DATE (GMT) 11/21/55 TIME (GMT) 0442
POFI USFWS MAY 1956 T NAKATA


VESSEL HUGH M SMITH CRUISE 31
STATION H-32 ΔD' O/ 700 = 1.177
LAT. 02° 42'S LONG. 139° 47' W
DATE(GMT) 11/21/55 TIME(GMT) 1722
DEPTH (METERS)
PO4-P
0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T. NAKATA


VESSEL HUGH M SMITH CRUISE 31
STATION H-33 ΔD' O/ 700 = 1.215
LAT. 04° 03' S LONG. 139° 49' W
DATE (GMT) 11/22/55 TIME (GMT) 0423
DEPTH (METERS)
PO4-P
O2
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T. NAKATA


0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
DEPTH (METERS)
200
300
400
500
600
700
800
900
1000
1100
PO_4-P
0
1
2
3
VESSEL HUGH M SMITH CRUISE 31
STATION H-34 ΔD' O/ 700 = 1.296
LAT. 05° 31' S LONG. 139° 57' W
DATE (GMT) 11/22/55 TIME (GMT) 1726
σt
0
1
2
3
4
5
6
7
33‰
34‰
35‰
36‰
100
200
300
400
500
600
700
0
100
200
300
400
500
600
700
POFI USFWS MAY 1956 T. NAKATA


VESSEL HUGH M SMITH CRUISE 31
STATION H-35 ΔD' O/ 700 = 1.287
LAT. 06° 33' S LONG. 139° 30' W
DATE (GMT) 11/23/55 TIME (GMT) 0432
DEPTH (METERS)
PO4-P
0° 2° 4° 6° 8° 10° 12° 14° 16° 18° 20° 22° 24° 26° 28° 30°
33‰
34‰
35‰
36‰
POFI USFWS MAY 1956 T NAKATA

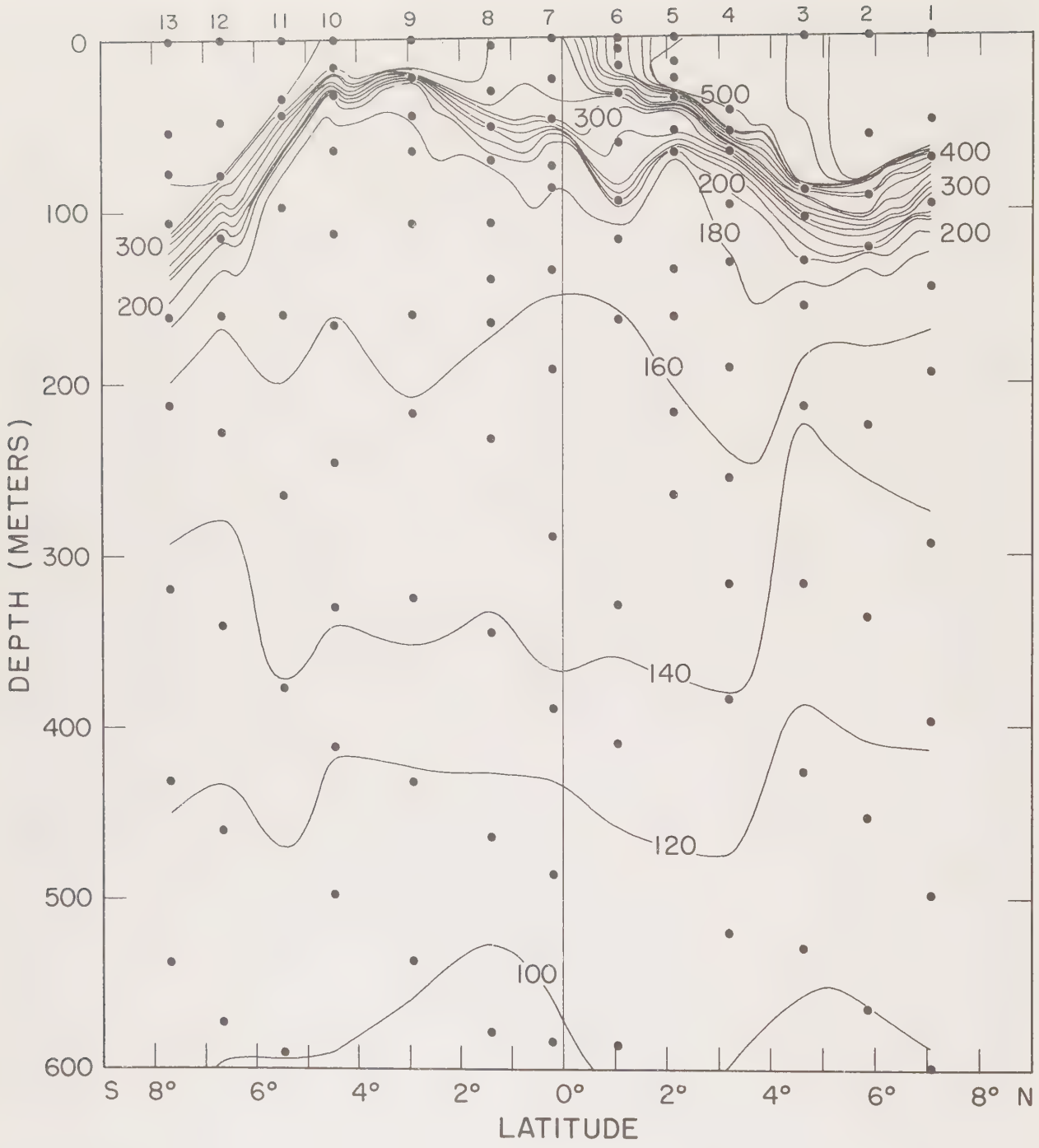


Figure 10.--Thermosteric anomaly in centiliters per ton, 110°W. longitude. Station numbers at the top. Depths of observation at each station to 600 meters are shown by dots.

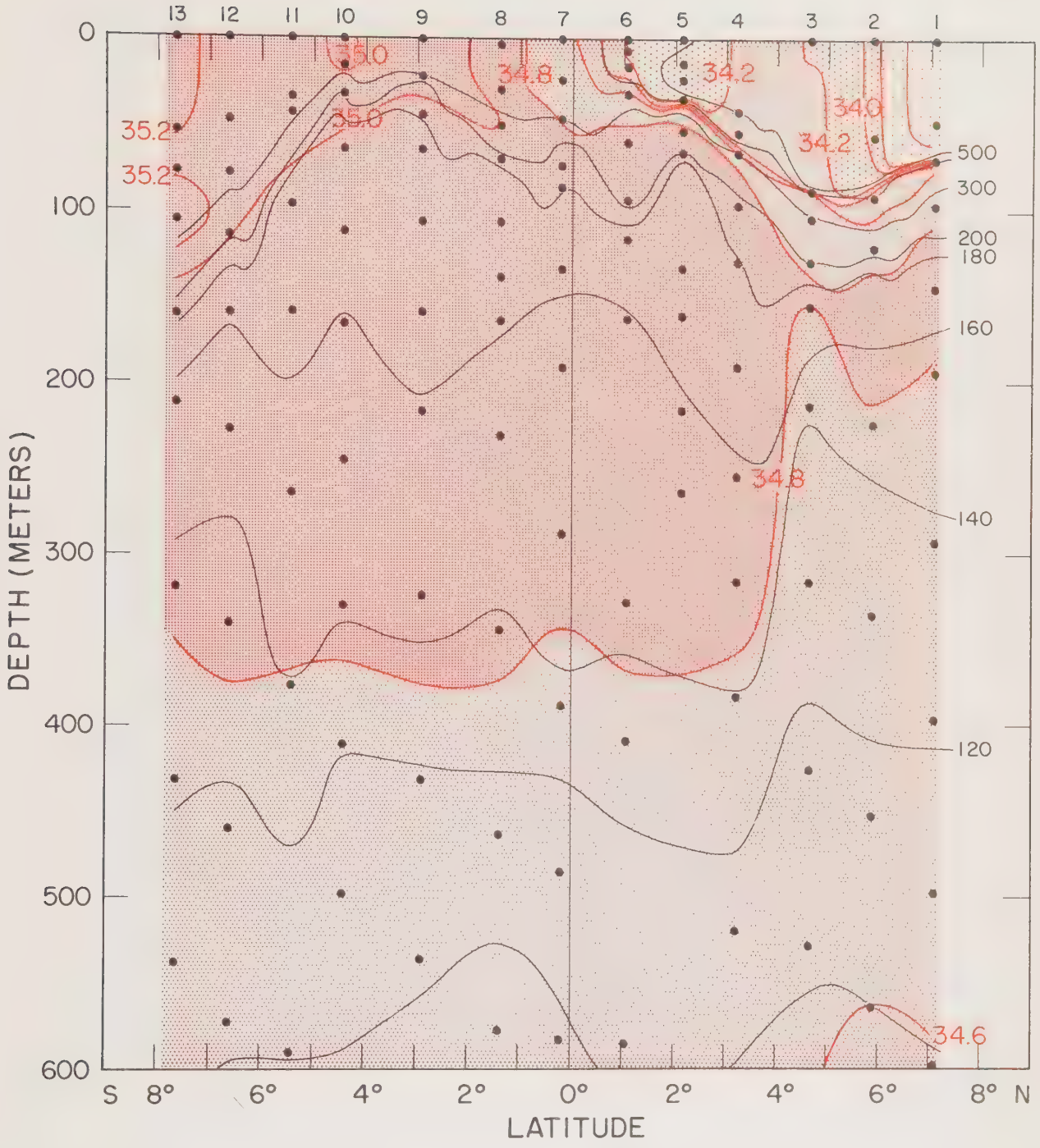


Figure 11.--Salinity in parts per thousand, 110°W. longitude. Selected thermosteric anomaly isopleths are repeated from figure 10 and are labeled at the right in centiliters per ton.

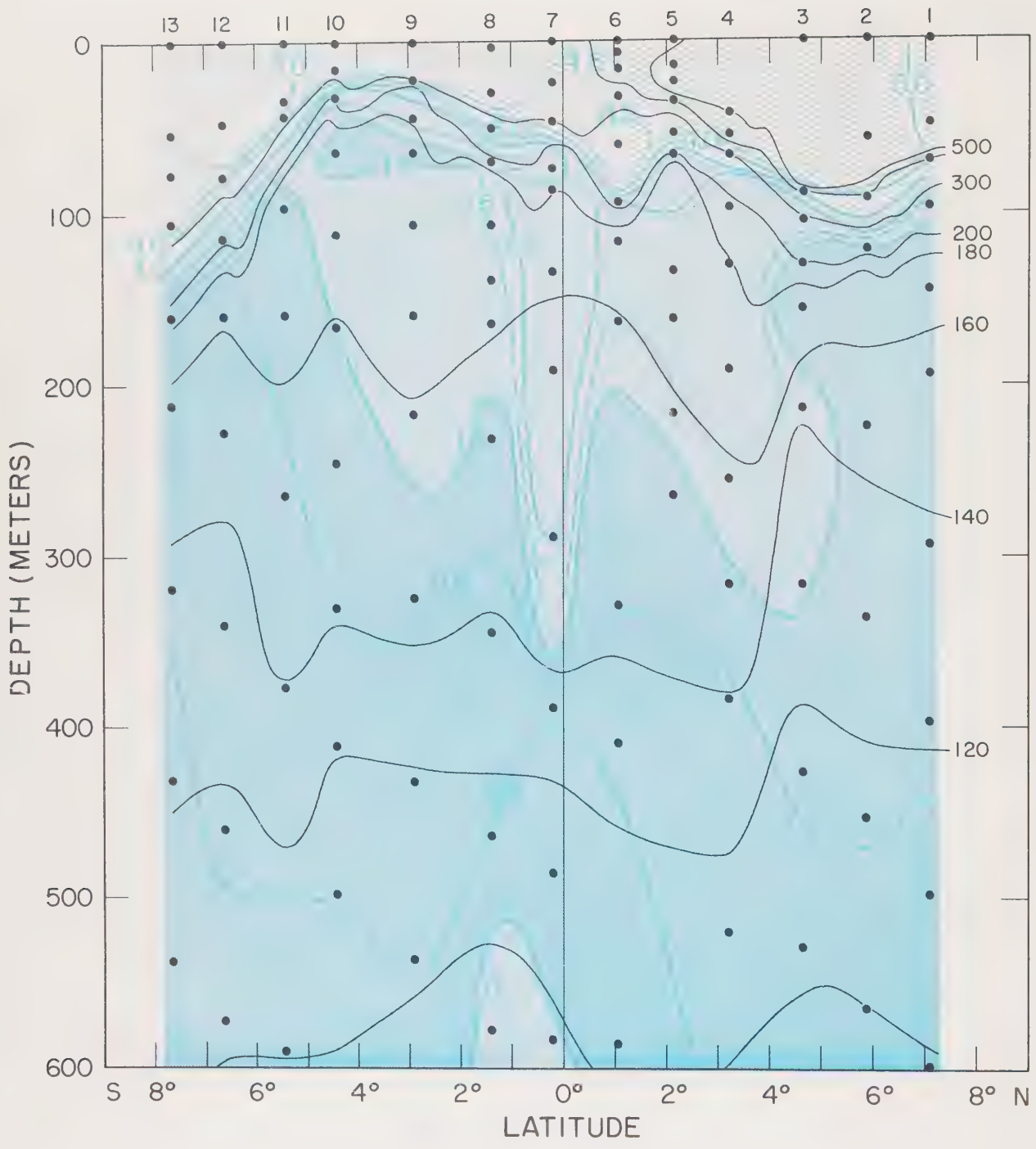


Figure 12.--Oxygen in milliliters per liter, 110°W. longitude.

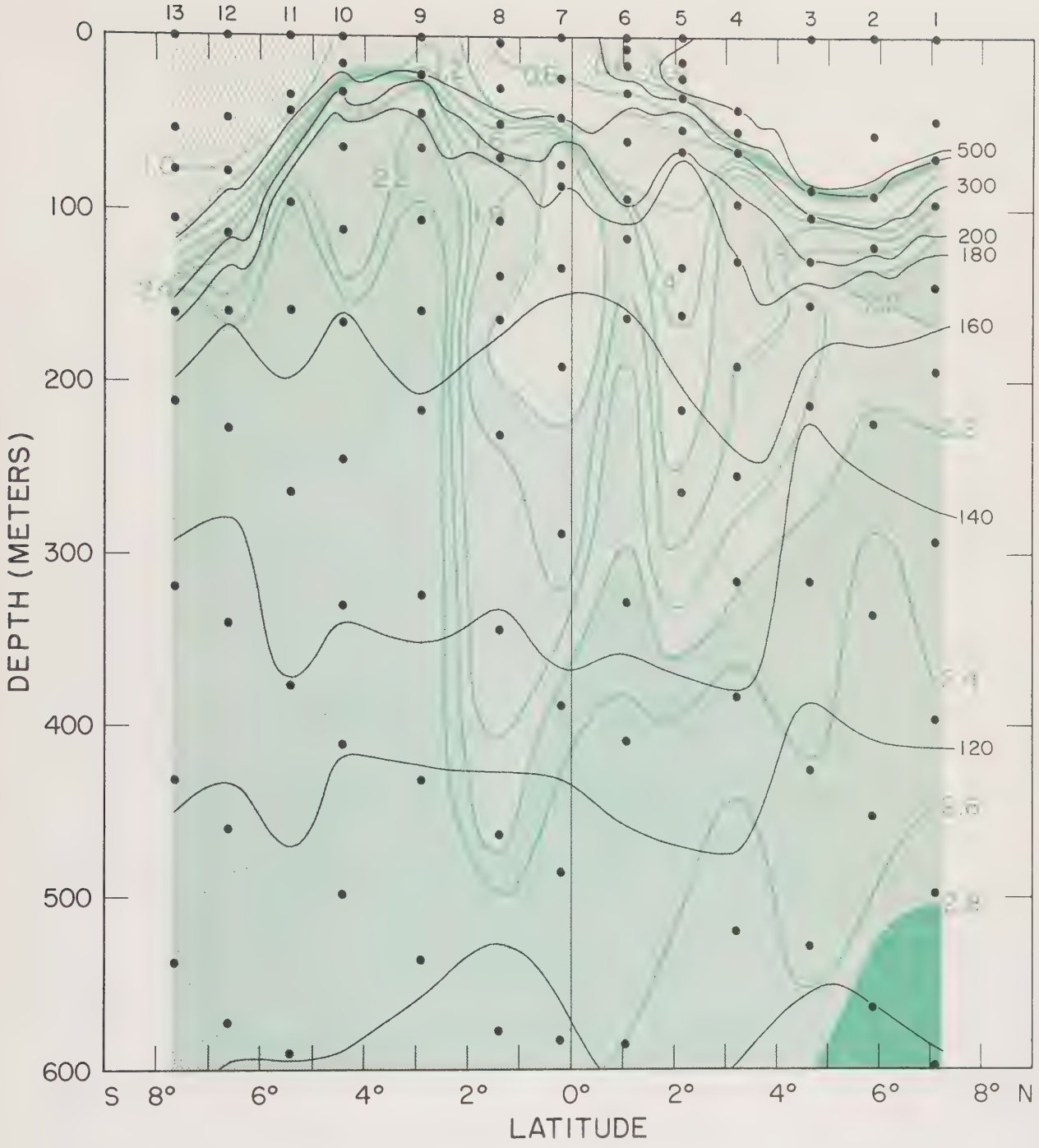


Figure 13.--Inorganic phosphate in microgram-atoms per liter, 110°W. longitude.

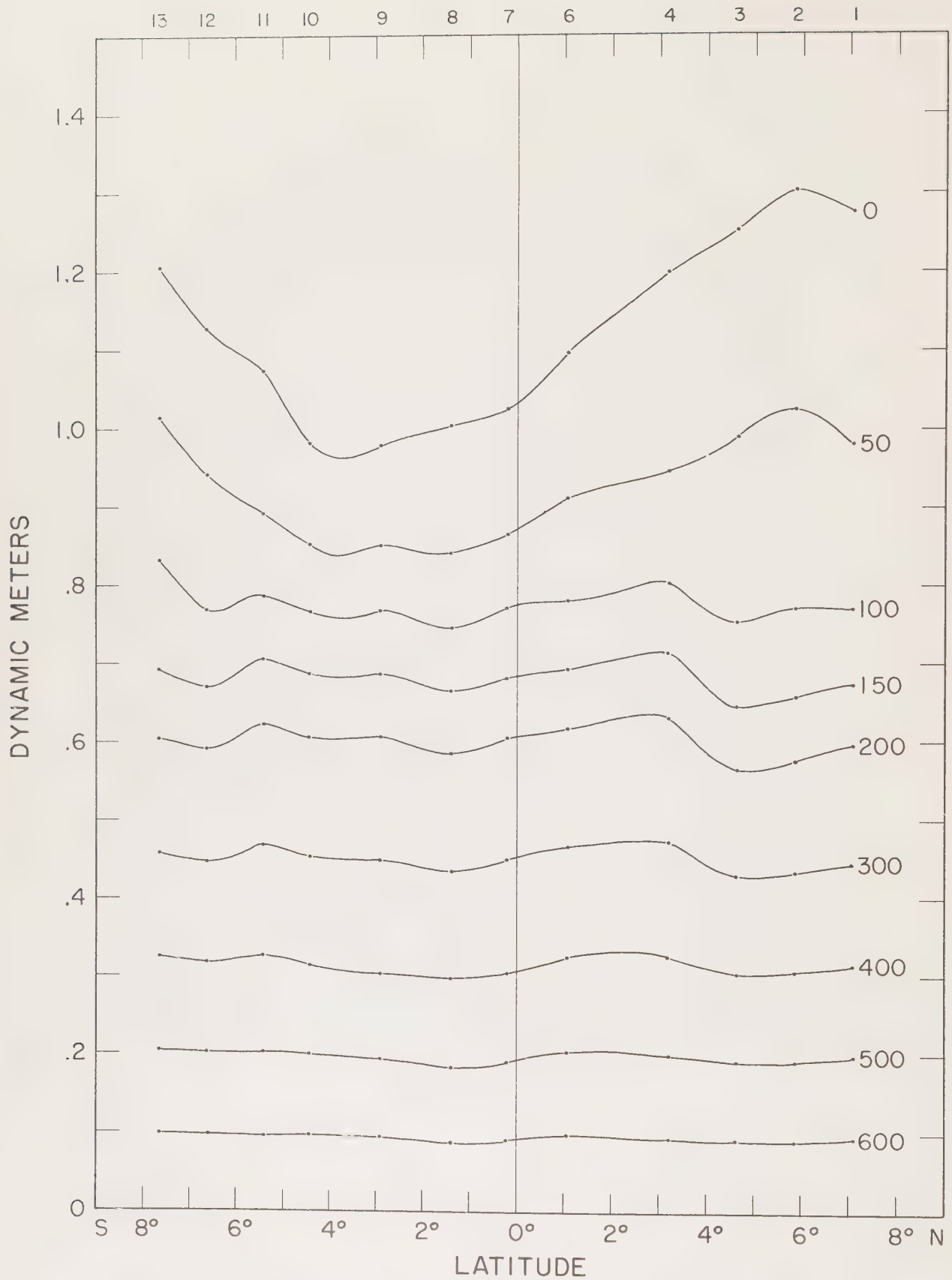


Figure 14.--Smoothed isobaric surfaces relative to the 700-decibar level; neglecting pressure term in specific volume anomaly for 110° W. longitude.

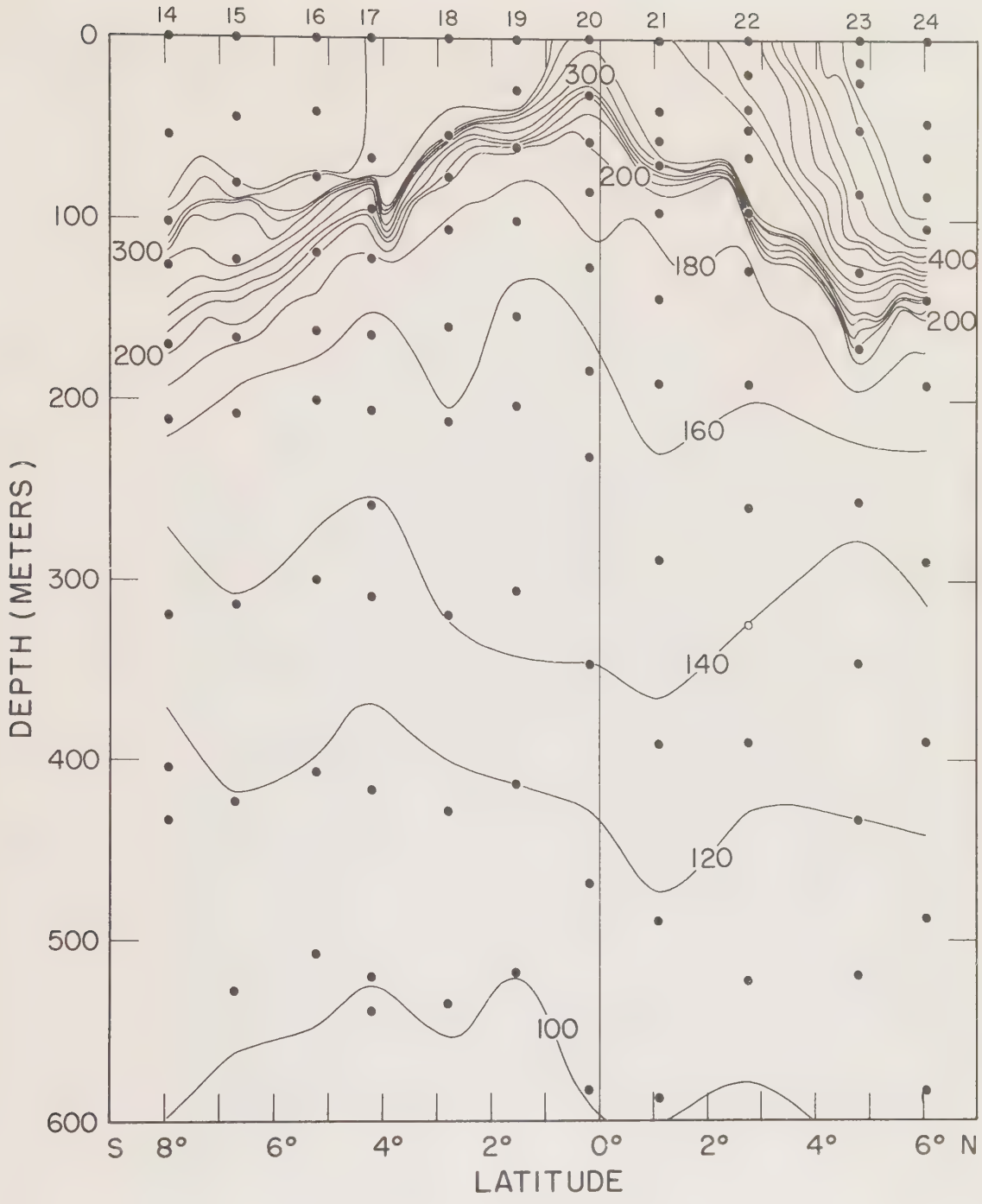


Figure 15.--Thermosteric anomaly in centiliters per ton, 120°W. longitude. Station numbers at the top. Depths of observation at each station to 600 meters are shown by dots.

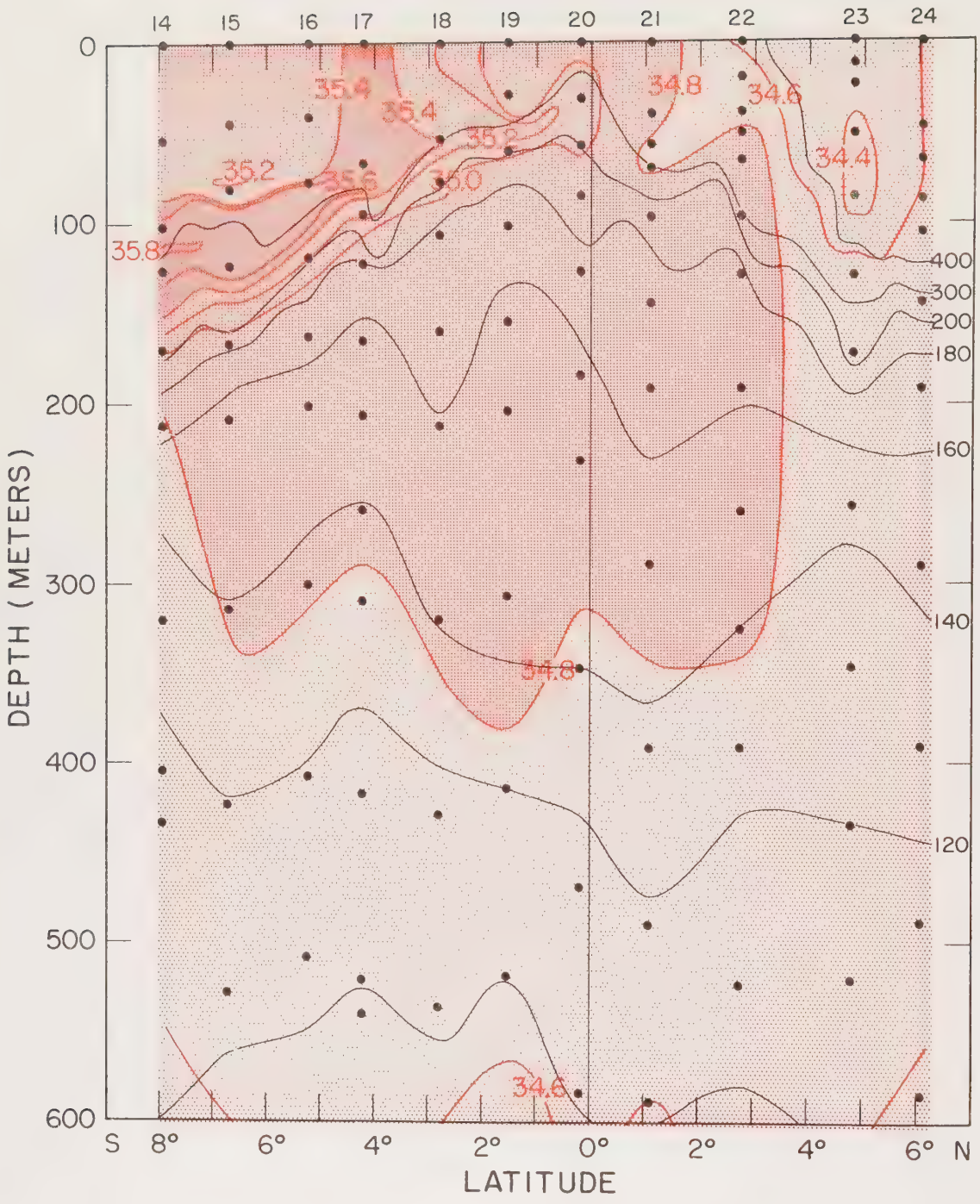


Figure 16.--Salinity in parts per thousand, 120°W. longitude. Selected thermosteric anomaly isopleths are repeated from figure 15 and are labeled at the right in centiliters per ton.

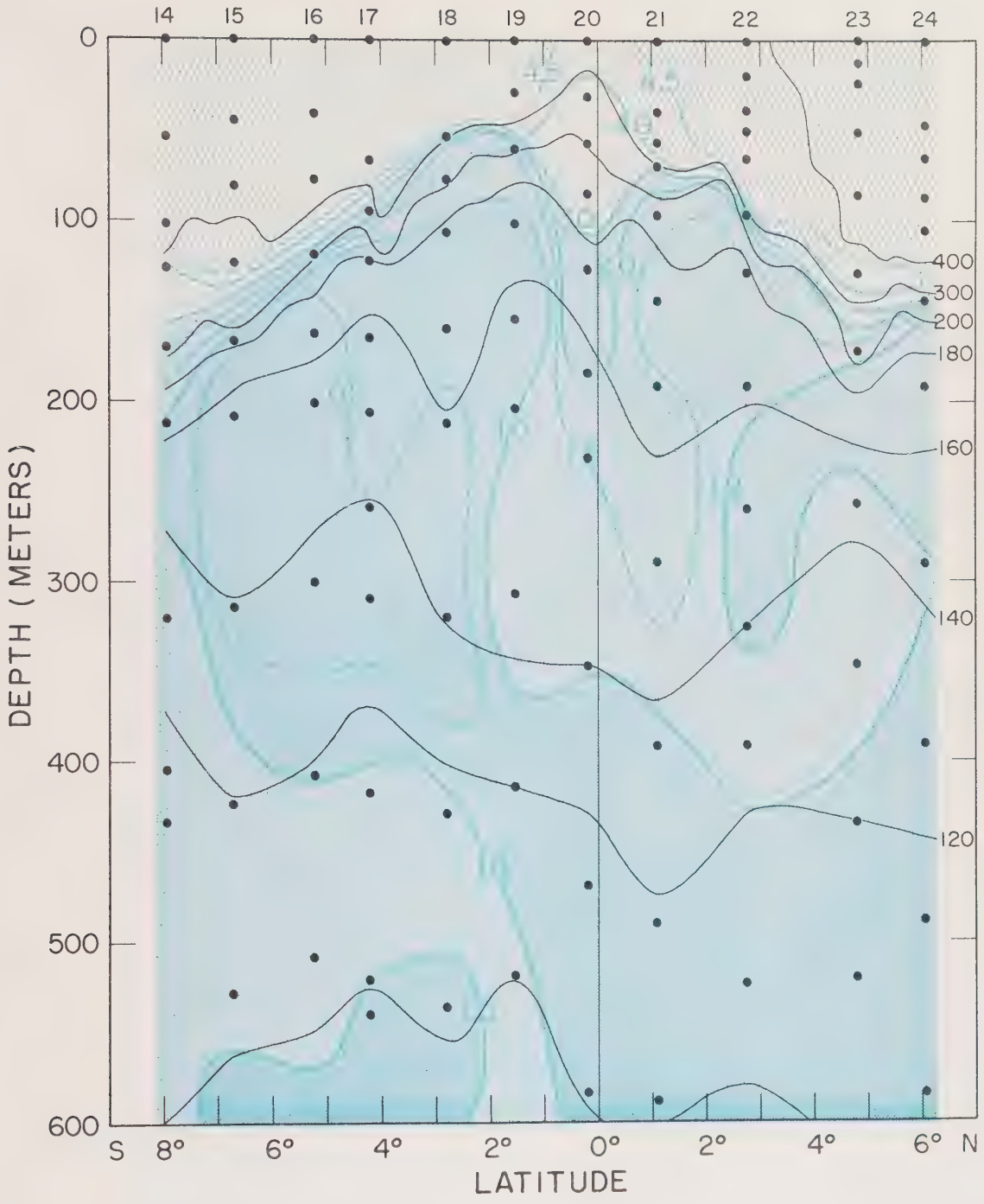


Figure 17.--Oxygen in milliliters per liter, 120°W. longitude.

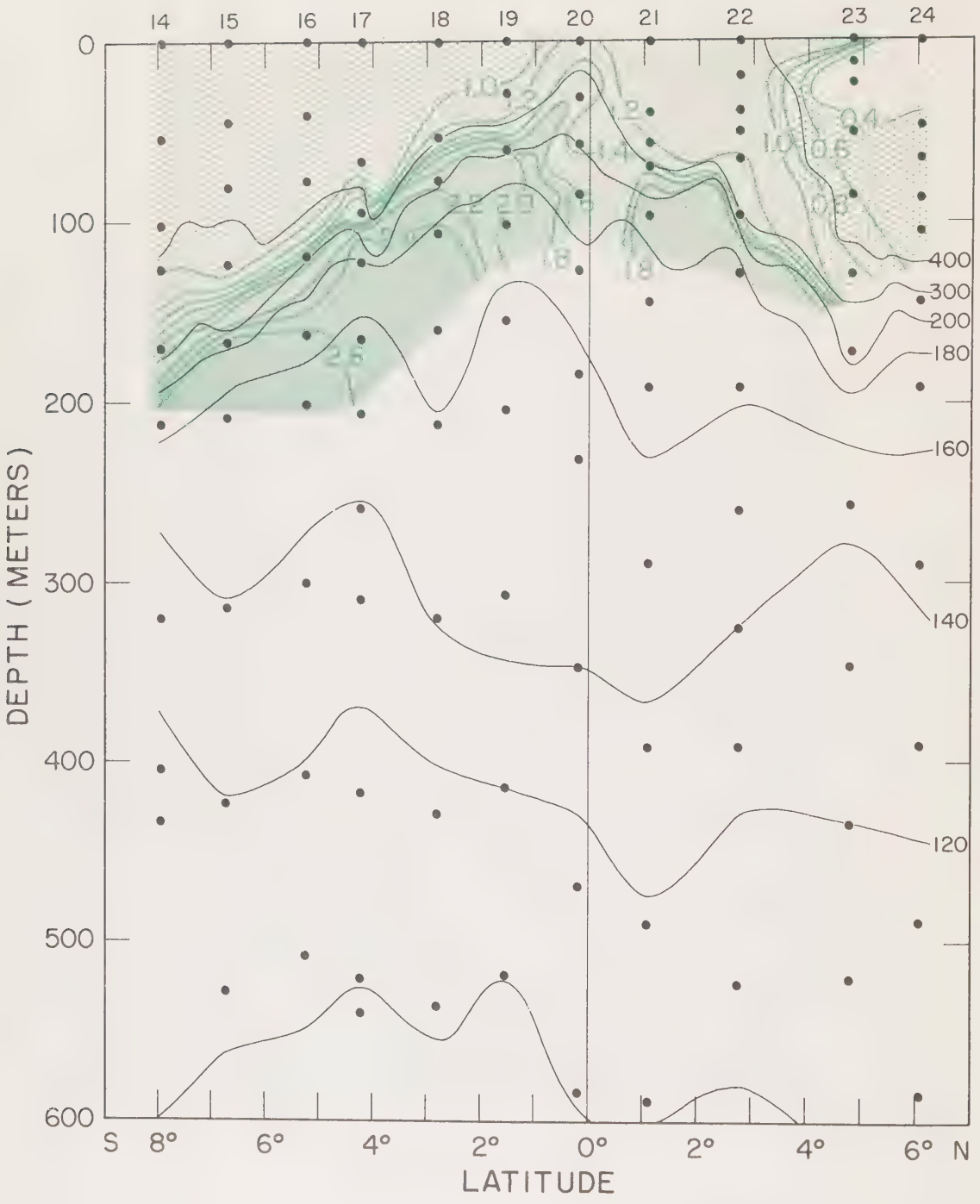


Figure 18.--Inorganic phosphate in microgram-atoms per liter, 120°W. longitude.

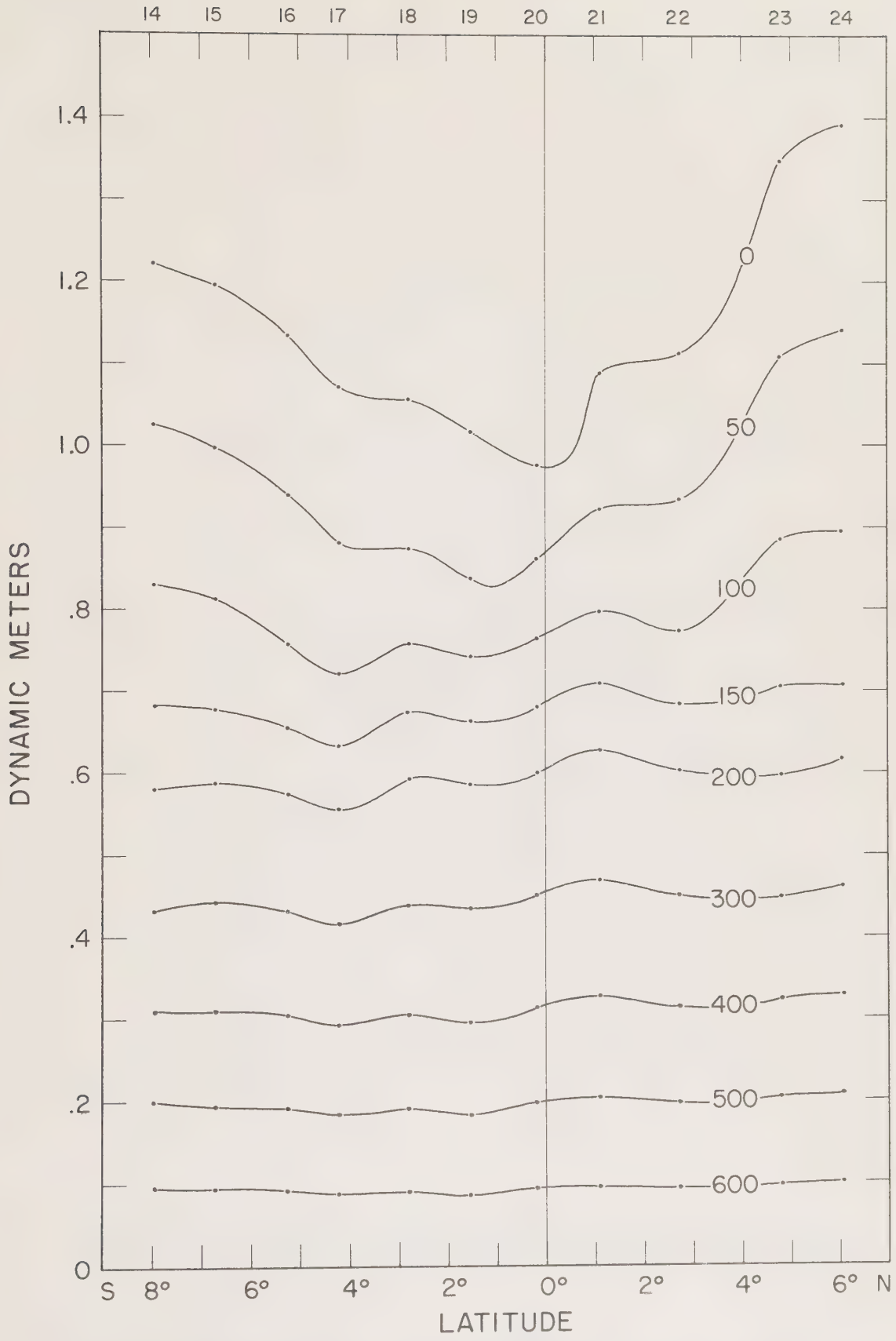


Figure 19.--Smoothed isobaric surfaces relative to the 700-decibar level; neglecting pressure term in specific volume anomaly for 120° W. longitude.

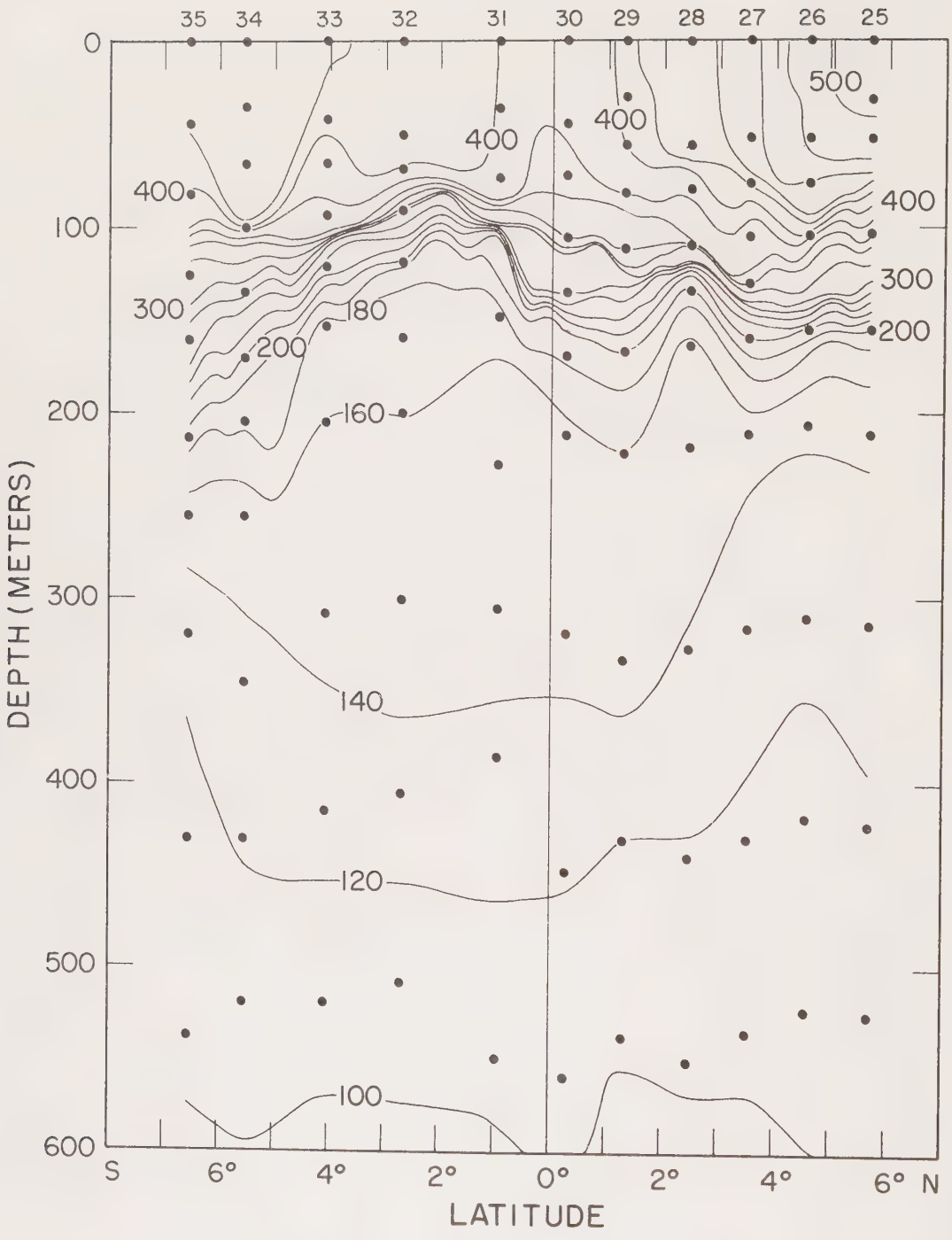


Figure 20.--Thermosteric anomaly in centiliters per ton, 140°W. longitude. Station numbers at the top. Depths of observation at each station to 600 meters are shown by dots.

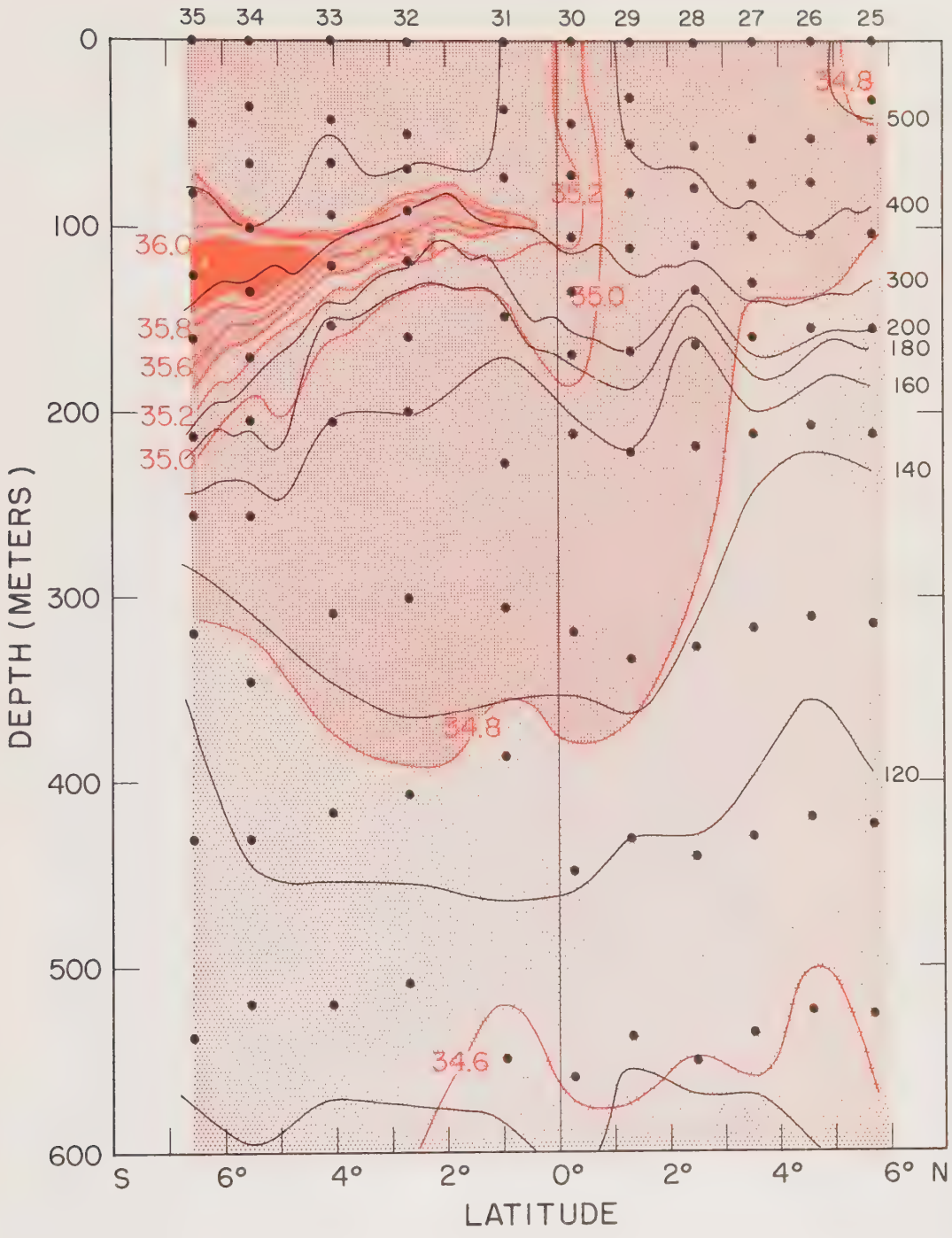


Figure 21.--Salinity in parts per thousand, 140°W. longitude. Selected thermosteric anomaly isopleths are repeated from figure 20 and are labeled at the right in centiliters per ton.

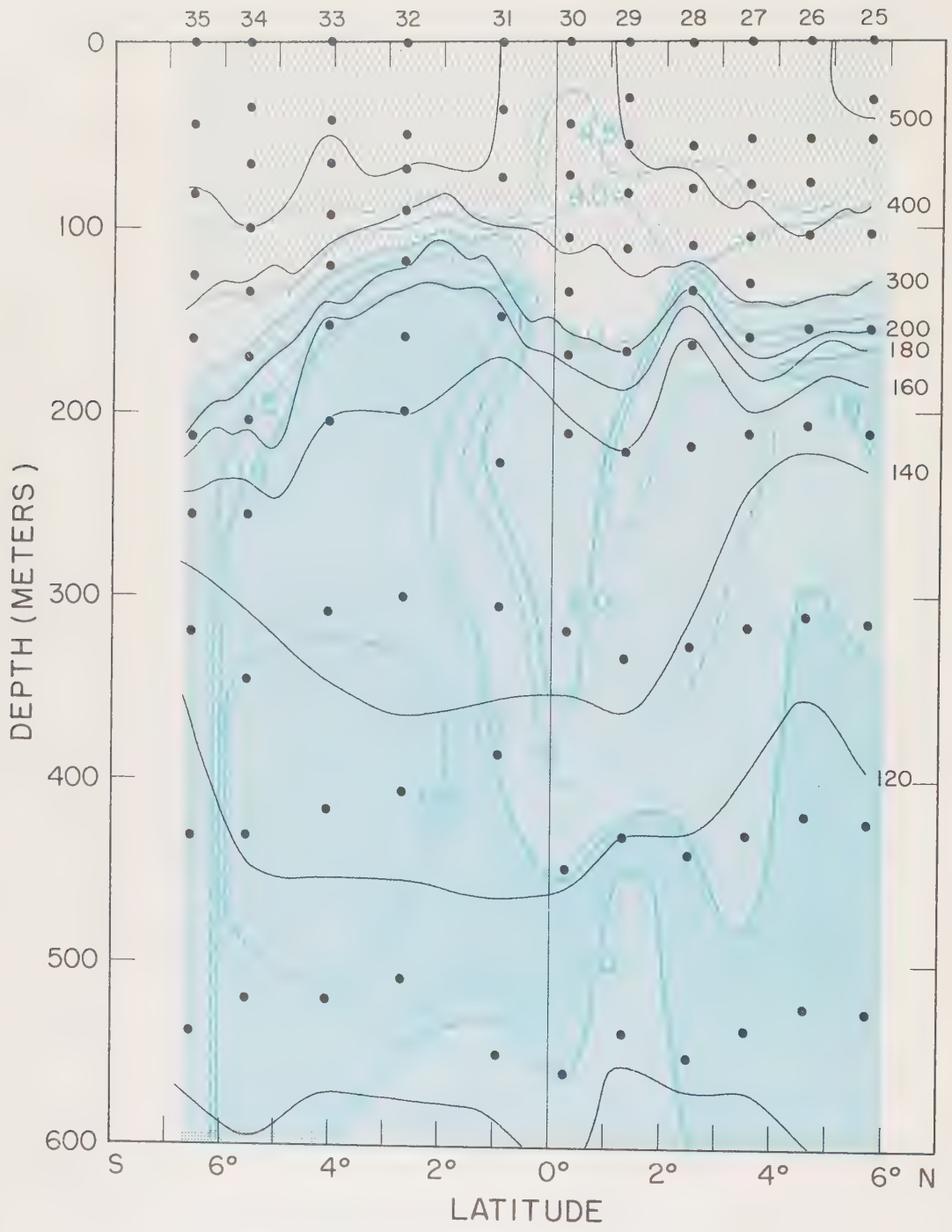


Figure 22.--Oxygen in milliliters per liter, 140°W. longitude.

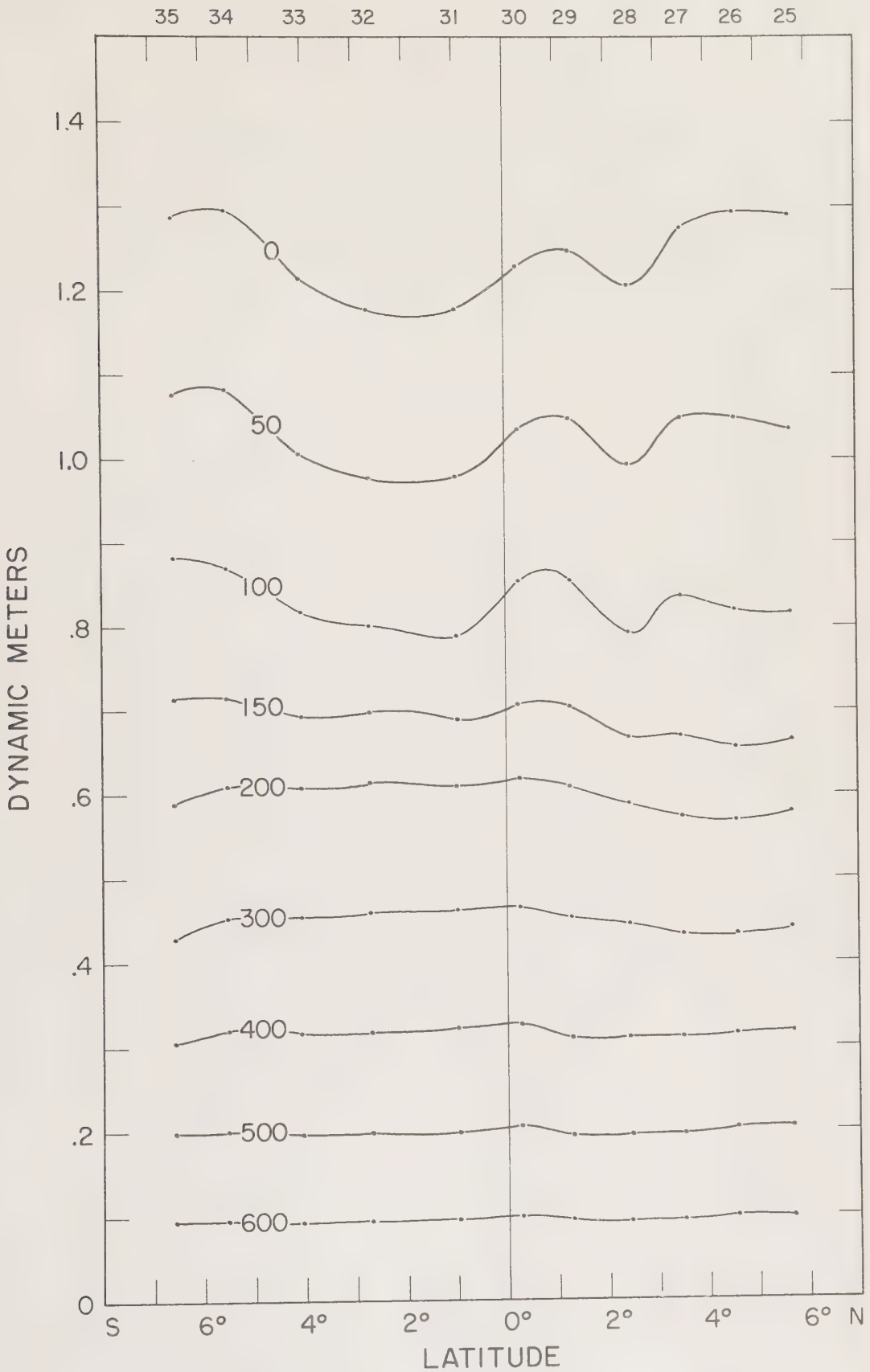


Figure 23.--Smoothed isobaric surfaces relative to the 700-decibar level; neglecting pressure term in specific volume anomaly for 140° W. longitude.

Table 2.--Summary list of station activities

Station	Date, 1955	Plankton hauls				Trawl hauls	Hydrographic	C^{14}		Surface phosphate	Surface salinity	Plant pig. sample	Bait fishing	Night light	Poison station	Secchi disc	Water color (Forel)	Incident light
		3-net	200 m. oblique	200-300 m.	Surface			Surface	20 meters									
Test No. 1	9/23	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Test No. 2	9/24	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	9/26	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X
2	9/26	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
3	9/26	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
4	9/27	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X
5	9/27	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
6	9/27	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
7	9/28	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X
8	9/28	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
9	9/28	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
10	9/29	X	X	-	-	-	-	-	-	X	X	-	-	-	-	X	-	X
11	9/29	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
12	9/29	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
13	9/30	X	X	X	-	-	-	-	-	X	X	-	-	-	-	X	X	X
14	9/30	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
15	9/30	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
16	10/1	X	X	-	-	-	-	-	-	X	X	-	-	-	-	X	X	X
17	10/1	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
18	10/1	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
19	10/2	X	X	X	-	-	-	-	-	X	X	-	-	-	-	-	-	X
20	10/2	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
21	10/2	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
22	10/3	X	X	-	-	-	-	-	-	X	X	-	-	-	-	X	X	X
23	10/3	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
24	10/3	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
25	10/4	X	X	-	-	-	-	-	-	X	X	-	-	-	-	X	X	X
26	10/4	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
27	10/4	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
28	10/5	X	X	X	-	-	-	-	-	X	X	-	-	-	-	X	X	X
29	10/5	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
30	10/5	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
31	10/6	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
32	10/6	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
33	10/6	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
34	10/7	X	X	X	-	-	-	-	-	X	X	-	-	-	-	X	X	X
35	10/7	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
36	10/7	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
37	10/8	X	X	-	-	-	-	-	-	X	X	-	-	-	-	X	X	X
38	10/8	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
39	10/8	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
40	10/9	X	X	X	-	-	-	-	-	X	X	-	-	-	-	X	X	X

Table 2.--Summary list of station activities (cont'd)

Station	Date, 1955	Plankton hauls				Trawl hauls	Hydrographic	C^{14}		Surface phosphate	Surface salinity	Plant pig. sample	Bait fishing	Night light	Poison station	Secchi disc	Water color (Forel)	Incident light
		3-net	200 m. oblique	200-300 m.	Surface			Surface	20 meters									
41	10/9	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
42	10/9	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
43	10/10	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	X
44	10/10	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
45	10/10	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
46	10/11	X	X	X	-	-	-	-	-	X	X	-	-	-	-	X	X	X
47	10/11	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
48	10/11	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
49	10/12	X	X	-	-	-	-	-	-	X	X	-	-	-	-	X	X	X
50	10/12	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
51	10/12	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
52	10/13	X	X	-	-	-	-	-	-	X	X	-	-	-	-	X	X	X
53	10/13	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
54	10/13	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
55	10/14	X	X	X	-	-	-	-	-	X	X	-	-	-	-	X	X	X
56	10/14	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
57	10/14	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
58	10/15	X	X	-	-	-	-	-	-	X	X	-	-	-	-	X	X	X
59	10/15	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
60	10/15	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
61	10/16	X	X	X	-	-	-	-	-	X	X	-	-	-	-	X	X	X
62	10/16	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
63	10/16	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
Test No. 3	10/25	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	-
Test No. 4	10/26	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	-
Test No. 5	10/27	-	-	-	-	-	-	X	-	-	-	X	-	-	-	-	-	-
64	10/27	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
65	10/27	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
66	10/28	X	X	-	-	-	X	X	X	-	-	X	-	-	-	X	X	X
67	10/28	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
68	10/28	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
69	10/29	X	X	X	-	-	X	X	X	-	-	X	-	-	-	X	X	X
70	10/29	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
71	10/29	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72	10/30	X	X	-	-	-	X	X	X	-	-	X	-	-	-	X	X	X
73	10/30	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
74	10/30	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
75	10/31	X	X	-	-	-	X	X	X	-	-	X	-	-	-	X	X	X
76	10/31	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
77	10/31	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
78	11/1	X	X	X	-	-	X	X	X	-	-	X	-	-	-	X	X	X
79	11/1	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
80	11/1	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2.--Summary list of station activities (cont'd)

Station	Date, 1955	Plankton hauls				Trawl hauls	Hydrographic	C^{14}		Surface phosphate	Surface salinity	Plant pig. sample	Bait fishing	Night light	Poison station	Secchi disc	Water color (Forel)	Incident light
		3-net	200 m. oblique	200-300 m.	Surface			Surface	20 meters									
81	11/2	X	X	-	-	-	X	X	X	-	-	X	-	-	-	X	X	X
82	11/2	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
83	11/2	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
84	11/3	-	X*	-	-	-	-	X	X	X	X	X	-	-	-	-	-	-
85	11/4	X	X	-	-	-	X	X	X	-	-	X	-	-	-	X	X	X
86	11/4	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
87	11/4	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
88	11/5	X	X	X	-	-	X	X	X	-	-	X	-	-	-	X	X	X
89	11/5	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
90	11/5	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
91	11/6	X	X	-	-	-	X	X	X	-	-	X	-	-	-	X	X	X
92	11/6	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
93	11/6	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
94	11/7	X	X	-	-	-	X	X	X	-	-	X	-	-	-	X	X	X
95	11/7	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
96	11/7	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
97	11/8	X	X	X	-	-	X	X	X	-	-	X	-	-	-	X	X	X
98	11/8	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
99	11/8	-	-	-	X	-	-	X	-	-	-	-	-	-	-	-	-	-
100	11/8	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
101	11/8	-	-	-	X	-	-	X	-	-	-	X	-	-	-	-	-	-
102	11/8	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
103	11/8	-	-	-	X	-	-	X	-	-	-	-	-	-	-	-	-	-
104	11/8	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
105	11/9	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
106	11/9	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-
107	11/9	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-
108	11/9	X	X	-	-	-	X	X	X	-	-	X	-	-	-	X	X	X
109	11/9	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
110	11/9	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
111	11/10	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
112	11/10	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
113	11/10	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
114	11/11	X	X	-	-	-	-	X	X	X	X	X	-	-	-	-	-	-
115	11/11	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
116	11/11	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
117	11/12	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
118	11/12	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
119	11/12	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
120	11/13	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X

* Two 2-net test hauls yielding 4 samples.

Table 2.--Summary list of station activities (cont'd)

Station	Date, 1955	Plankton hauls				Trawl hauls	Hydrographic	C^{14}		Surface phosphate	Surface salinity	Plant pig. sample	Bait fishing	Night light	Poison station	Secchi disc	Water color (Forel)	Incident light
		3-net	200 m. oblique	200-300 m.	Surface			Surface	20 meters									
121	11/13	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
122	11/13	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
123	11/14	X	X	X	-	-	-	X	X	X	X	X	-	-	-	X	X	X
124	11/14	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
125	11/14	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
126	11/15	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
127	11/15	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
128	11/15	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
129	11/16	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
130	11/16	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
131	11/16	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
132	11/17	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
133	11/17	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
134	11/17	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
135	11/18	X	X	X	-	-	X	X	X	-	-	X	-	-	-	X	X	X
136	11/18	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
137	11/18	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
138	11/19	-	X	-	-	-	-	X	X	-	-	-	-	-	-	-	-	-
139	11/19	X	X	-	-	-	X	X	X	-	-	X	-	-	-	X	X	X
140	11/19	-	X	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-
141	11/19	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
142	11/19	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
143	11/20	-	X	-	-	-	-	X	X	X	-	-	-	-	-	-	-	-
144	11/20	X	X	-	-	-	X	X	X	-	-	X	-	-	-	X	X	X
145	11/20	-	X	-	-	-	-	X	X	X	-	-	-	-	-	-	-	-
146	11/20	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
147	11/20	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
148	11/21	-	X	-	-	-	-	X	X	X	-	-	-	-	-	-	-	-
149	11/21	X	X	-	-	-	X	X	X	-	-	X	-	-	-	X	X	X
150	11/21	-	X	-	-	-	-	X	X	X	-	-	-	-	-	-	-	-
151	11/21	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
152	11/21	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
153	11/22	X	X	X	-	-	X	X	X	-	-	X	-	-	-	X	X	X
154	11/22	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-
155	11/22	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
156	11/24	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-
157	11/25	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-
158	11/25	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-
159	11/26	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-
160	11/27	-	-	-	-	-	-	-	-	-	-	-	X	-	X	-	-	-

Table 2.--Summary list of station activities (cont'd)

Station	Date, 1955	Plankton hauls				Trawl hauls	Hydrographic	C^{14}		Surface phosphate	Surface salinity	Plant pig. sample	Bait fishing	Night light	Poison station	Secchi disc	Water color (Forel)	Incident light
		3-net	200 m. oblique	200-300 m.	Surface			Surface	20 meters									
161	11/28	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-
162	11/28	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-
163	11/29	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-
164	12/1	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
165	12/1	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
166	12/2	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
167	12/2	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
168	12/2	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
169	12/3	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
170	12/3	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
171	12/3	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
172	12/4	X	X	X	-	-	-	X	X	X	X	X	-	-	-	X	X	X
173	12/4	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
174	12/4	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
175	12/5	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
176	12/5	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
177	12/5	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
178	12/6	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
179	12/6	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
180	12/6	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
181	12/7	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
182	12/7	-	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-
183	12/7	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
184	12/8	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
185	12/8	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
186	12/10	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
187	12/10	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
188	12/11	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
189	12/11	X	X	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-
190	12/12	X	X	-	-	-	-	X	X	X	X	X	-	-	-	X	X	X
191	12/12	-	X*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
192	12/13	-	-	-	-	-	-	X	X	X	X	X	-	-	-	-	-	-
193	12/14	-	-	-	-	-	-	X	X	X	X	X	-	-	-	-	-	-
194	12/15	-	-	-	-	-	-	X	X	X	X	X	-	-	-	-	-	-
195	12/16	-	-	-	-	-	-	X	X	X	X	X	-	-	-	-	-	-
196	12/16	-	-	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-
197	12/16	-	-	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-
198	12/16	-	-	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-
199	12/17	-	-	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-
200	12/17	-	-	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-
201	12/17	-	-	-	-	-	-	X	X	X	X	-	-	-	-	-	-	-
Total		114	120	16	7	54	35	76	70	93	89	44	4	6	1	49	48	54

* Two 2-net test hauls yielding 4 samples.

Table 3.--Zooplankton station data with sample volumes as cubic centimeters of zooplankton per 1,000 cubic meters of water strained, total number of organisms per 100 cubic meters of water strained, Secchi disc visibility, water color (Forel scale) and incident light measurement employing a Weston exposure meter, equipped with incident light attachment

Station Sample	Position		Date, 1955	Time, ZT	Sample depth, m.	Water strained, m^3	Zooplankton		Incident light (foot candles)	Water color (Forel scale)	Secchi disc, m.
	Latitude	Longitude					Volume, cc./1000 $m.^3$	Total No./100 $m.^3$			
1-1	12°02'N	156°14'W	9/26	0939-1003	0-92	814.1	12.7	-	-	-	-
2					101-206	514.8	13.2	-	-	-	-
3					226-403	562.1	0.4	-	-	-	-
4				1029-1103	0-232	1615.9	14.0	-	9200	-	-
3-1	10°42'N	156°04'W	9/26	2222-2248	0-77	1537.0	28.0	-	-	-	-
2					52-137	1083.0	28.4	-	-	-	-
4-1	09°24'N	155°50'W	9/27	1005-1032	0-63	1113.6	19.7	-	-	-	-
2					61-127	921.5	0.3	-	-	-	-
3					137-240	1482.9	8.2	-	-	-	-
4	09°14'N	155°48'W	9/27	1104-1136	0-244	1797.6	18.9	-	500-2200	-	-
6-1	07°50'N	155°16'W	9/27	2309-2338	0-74	1480.7	15.3	-	-	-	-
2					68-147	1272.5	28.8	-	-	-	-
3					151-272	654.9	15.7	-	-	-	-
4	07°46'N	155°15'W	9/28	0002-0037	0-174	1829.4	18.1	-	-	-	-
7-1	06°42'N	154°54'W	9/28	0948-1018	0-76	1577.7	42.0	-	4500-5700	-	-
2					68-160	933.7	20.5	-	-	-	-
3					151-306	360.4	18.0	-	-	-	-
4	06°40'N	154°50'W	9/28	1035-1107	0-244	1643.5	20.9	-	6800	-	-
9-1	05°26'N	154°52'W	9/28	2215-2245	0-74	1681.7	51.4	-	-	-	-
2					76-158	984.4	57.4	-	-	-	-
3					171-302	847.4	20.9	-	-	-	-
10-1	05°26'N	154°22'W	9/29	0933-1002	0-37	1446.4	39.0	-	1700	-	-
2					72-133	508.2	68.9	-	-	-	-
3					134-249	1304.8	14.7	-	-	-	-
4	05°27'N	154°20'W	9/29	1023-1056	0-242	1617.4	34.7	-	1700	-	22
12-1	06°30'N	153°18'W	9/29	2218-2249	0-60	1542.9	41.9	-	-	-	-
2					57-143	771.7	0.8	-	-	-	-
3	06°28'N	153°14'W	9/29	2307-2337	0-286	1525.2	36.3	-	-	-	-
13-1	07°30'N	152°07'W	9/30	0928-1002	0-63	1298.4	34.7	-	1700	-	-
2					57-127	1375.0	56.1	-	-	-	-
3	07°30'N	152°03'W	9/30	1020-1055	0-225	2058.2	18.1	-	5100	2	22
15-1	08°26'N	150°54'W	9/30	2157-2228	0-60	1004.0	28.7	-	-	-	-
2					66-132	833.0	27.9	-	-	-	-
4	08°26'N	150°50'W	9/30	2246-2323	0-224	2069.0	19.6	-	-	-	-
16-1	09°13'N	149°48'W	10/1	0932-1003	0-64	1285.6	18.7	-	4000	-	-
2					52-145	1026.8	22.3	-	-	-	-
3					115-283	652.4	4.1	-	-	-	-
4	09°14'N	149°44'W	10/1	1025-1101	0-244	1808.9	14.3	-	8000	1	33
18-1	10°28'N	148°44'W	10/1	2220-2256	0-72	1580.8	43.4	-	-	-	-
2					49-147	564.4	3.4	-	-	-	-
3					110-277	1195.3	7.3	-	-	-	-
4	10°34'N	148°42'W	10/1	2314-2345	0-230	1714.2	23.0	-	-	-	-

Table 3.--Zooplankton station data with sample volumes as cubic centimeters of zooplankton per 1,000 cubic meters of water strained, total number of organisms per 100 cubic meters of water strained, Secchi disc visibility, water color (Forel scale) and incident light measurement employing a Weston exposure meter, equipped with incident light attachment (cont'd)

Station Sample	Position		Date, 1955	Time, ZT	Sample depth, m.	Water strained, $m.^3$	Zooplankton		Incident light (foot candles)	Water color (Forel scale)	Secchi disc, m.
	Latitude	Longitude					Volume, $cc./1000\ m.^3$	Total $No./100\ m.^3$			
19-1	11°32'N	148°13'W	10/2	0845-0918	0-74	1586.7	29.7	-	-	-	-
2					52-175	935.2	47.6	-	-	-	-
3					115-346	1008.5	6.3	-	-	-	-
4	11°35'N	148°10'W	10/2	0942-1012	259-387	548.0	6.8	-	5100	-	-
5	11°37'N	148°08'W	10/2	1032-1104	0-256	1504.8	22.3	-	2200-6800	1	26
21-1	10°55'N	147°10'W	10/2	2200-2231	0-59	1503.2	45.6	-	-	-	-
2					72-149	1079.9	31.5	-	-	-	-
3					161-300	360.4	6.7	-	-	-	-
4	10°58'N	147°07'W	10/2	2247-2319	0-235	1483.8	18.2	-	-	-	-
22-1	10°16'N	146°08'W	10/3	0929-1002	0-71	1514.2	20.3	-	-	-	-
2					76-161	1155.9	18.2	-	-	-	-
3					171-315	851.8	7.2	-	-	-	-
4	10°17'N	146°05'W	10/3	1020-1052	0-256	1506.3	12.3	-	6800	2	31
24-1	09°40'N	144°54'W	10/3	2153-2227	0-68	1502.7	29.9	-	-	-	-
2					63-137	1285.8	26.8	-	-	-	-
3					141-259	1197.1	11.6	-	-	-	-
25-1	09°02'N	143°57'W	10/4	0918-0952	0-75	1298.2	33.0	-	-	-	-
2					52-152	1349.3	30.7	-	-	-	-
3	09°04'N	143°53'W	10/4	1008-1040	0-238	1640.2	24.0	-	1700-2200	2	26
27-1	08°34'N	142°34'W	10/4	2201-2234	0-71	1502.2	43.8	-	-	-	-
2					47-132	1772.8	35.5	-	-	-	-
3	08°32'N	142°30'W	10/4	2257-2332	0-229	1547.5	27.0	-	-	-	-
28-2	08°06'N	141°24'W	10/5	0923-0955	0-57	1500.9	8.8	-	-	-	-
3					63-135	1310.3	17.4	-	-	-	-
4	08°04'N	141°20'W	10/5	1014-1046	0-229	1570.8	12.6	-	10000	4	26
30-1	08°55'N	140°02'W	10/5	2155-2231	0-68	1349.1	43.9	-	-	-	-
2					59-137	1740.8	24.8	-	-	-	-
3					131-259	1408.7	10.3	-	-	-	-
4	08°50'N	140°01'W	10/5	2247-2319	0-224	1585.7	16.8	-	-	-	-
31-3	09°38'N	138°51'W	10/6	1050-1123	0-174	1624.8	30.0	-	-	-	-
33-1	10°29'N	137°43'W	10/6	2155-2222	0-52	1101.3	157.5	-	-	-	-
3	10°31'N	137°40'W	10/6	2238-2307	0-250	1357.3	80.1	-	-	-	-
34-1	11°16'N	136°39'W	10/7	0931-1001	0-66	1317.1	90.7	-	-	-	-
3					141-303	1077.3	7.0	-	-	-	-
4	11°19'N	136°40'W	10/7	1018-1050	0-250	1456.6	33.8	-	3400-6800	4	27
36-1	10°45'N	135°36'W	10/7	2152-2224	0-64	1362.4	122.2	-	-	-	-
2					59-160	335.7	34.0	-	-	-	-
3					131-322	625.0	13.0	-	-	-	-
4	10°44'N	135°32'W	10/7	2240-2315	0-266	1466.1	49.8	-	-	-	-
37-1	10°10'N	134°12'W	10/8	0931-1006	0-79	1374.7	72.1	-	6800	-	-
2					61-152	1019.6	24.2	-	-	-	-
3					137-280	1621.2	5.9	-	-	-	-
4	10°12'N	134°07'W	10/8	1021-1110	0-270	1675.5	75.4	-	6800-10000	2	29

Table 3.--Zooplankton station data with sample volumes as cubic centimeters of zooplankton per 1,000 cubic meters of water strained, total number of organisms per 100 cubic meters of water strained, Secchi disc visibility, water color (Forel scale) and incident light measurement employing a Weston exposure meter, equipped with incident light attachment (cont'd)

Station Sample	Position		Date, 1955	Time, ZT	Sample depth, m.	Water strained, $m.^3$	Zooplankton		Incident light (foot candles)	Water color (Forel scale)	Secchi disc, m.
	Latitude	Longitude					Volume, $cc./1000 m.^3$	Total $No./100 m.^3$			
39-1	09°38'N	132°53'W	10/8	2138-2210	0-70	1168.6	64.4	-	-	-	-
2					68-143	1440.7	57.9	-	-	-	-
3					151-268	1229.7	4.7	-	-	-	-
4	09°37'N	132°50'W	10/8	2225-2300	0-242	1822.2	37.0	-	-	-	-
40-1	09°02'N	131°36'W	10/9	0825-0855	142-410	907.5	10.1	-	-	-	-
2	09°01'N	131°33'W	10/9	0928-1001	0-60	1321.0	27.6	-	-	-	-
3					78-136	897.8	1.1	-	-	-	-
4					175-267	1174.7	5.4	-	-	-	-
5	08°59'N	131°30'W	10/9	1015-1055	0-244	2052.6	20.4	-	2900	3	22
42-1	09°31'N	129°53'W	10/9	2155-2229	66-143	737.7	0.4	-	-	-	-
2					147-279	1195.7	5.1	-	-	-	-
3	09°32'N	129°50'W	10/9	2243-2319	0-182	2146.6	27.4	-	-	-	-
43-1	10°03'N	128°18'W	10/10	0938-1008	0-73	1131.3	44.9	-	200	-	-
2					80-170	521.0	2.7	-	-	-	-
3					180-334	760.5	9.7	-	-	-	-
4	10°07'N	128°20'W	10/10	1028-1105	0-254	1588.2	17.4	-	-	-	-
45-1	10°30'N	127°16'W	10/10	2156-2226	0-56	1211.6	90.3	-	-	-	-
2					54-167	825.4	28.1	-	-	-	-
3	10°32'N	127°14'W	10/10	2240-2315	0-242	1464.3	53.6	-	-	-	-
46-1	10°52'N	126°12'W	10/11	0833-0859	213-335	821.8	11.8	-	-	-	-
2	10°55'N	126°12'W	10/11	0937-1008	0-77	1156.1	127.5	-	-	-	-
3					82-167	1033.5	19.4	-	-	-	-
4					184-305	404.4	3.0	-	-	-	-
5	10°57'N	126°08'W	10/11	1025-1100	0-244	1599.2	20.5	-	1700-8000	3	20
48-1	11°36'N	125°00'W	10/11	2142-2212	0-60	1201.7	103.2	-	-	-	-
2					61-143	545.2	0.9	-	-	-	-
3	11°38'N	124°57'W	10/11	2308-2340	0-246	1683.2	49.3	-	-	-	-
49-1	12°11'N	123°48'W	10/12	0933-1003	0-68	1426.4	85.2	-	6800	-	-
2					66-141	882.6	40.1	-	-	-	-
3					147-256	916.6	1.7	-	-	-	-
4	12°12'N	123°42'W	10/12	1021-1055	0-213	1707.0	68.1	-	5700-6800	2	29
51-1	11°20'N	122°28'W	10/12	2137-2207	0-41	1432.6	82.9	-	-	-	-
2					61-130	988.3	29.3	-	-	-	-
3					137-276	882.2	9.7	-	-	-	-
4	11°22'N	122°25'W	10/12	2228-2258	0-222	1385.0	36.1	-	-	-	-
52-1	10°19'N	121°13'W	10/13	0927-0959	0-59	1715.2	40.9	-	-	-	-
2					137-300	648.2	6.5	-	-	-	-
3	10°22'N	121°12'W	10/13	1013-1045	0-235	1692.9	50.3	-	4500	3	31
54-1	09°26'N	119°58'W	10/13	2137-2207	0-61	1438.7	54.4	-	-	-	-
2					66-152	972.5	26.1	-	-	-	-
3	09°28'N	119°57'W	10/13	2222-2251	0-235	1472.0	25.1	-	-	-	-
55-1	08°41'N	118°51'W	10/14	0828-0858	213-366	1049.7	9.2	-	-	-	-
2	08°38'N	118°53'W	10/14	0934-1006	0-58	1088.0	40.0	-	-	-	-
3					61-140	265.9	2.6	-	-	-	-
4					137-259	934.4	6.8	-	4500	3	27

Table 3.--Zooplankton station data with sample volumes as cubic centimeters of zooplankton per 1,000 cubic meters of water strained, total number of organisms per 100 cubic meters of water strained, Secchi disc visibility, water color (Forel scale) and incident light measurement employing a Weston exposure meter, equipped with incident light attachment (cont'd)

Station Sample	Position		Date, 1955	Time, ZT	Sample depth, m.	Water strained, $m.^3$	Zooplankton		Incident light (foot candles)	Water color (Forel scale)	Secchi disc, m.
	Latitude	Longitude					Volume, $cc./1000 m.^3$	Total $No./100 m.^3$			
57-1	09°14'N	117°28'W	10/14	2138-2209	0-58	1170.1	64.8	-	-	-	-
2					61-132	777.3	54.2	-	-	-	-
3					137-257	1222.4	11.9	-	-	-	-
4	09°16'N	117°24'W	10/14	2228-2302	0-244	2008.5	51.3	-	-	-	-
58-1	09°56'N	115°55'W	10/15	0930-1001	0-82	1547.1	32.5	-	-	-	-
2					61-162	1176.5	48.7	-	-	-	-
3					137-302	717.4	1.1	-	-	-	-
4	09°59'N	115°56'W	10/15	1029-1100	0-230	1563.0	32.3	-	8000	1	31
60-1	10°40'N	114°34'W	10/15	2142-2212	0-43	1160.4	96.1	-	-	-	-
3					161-263	581.7	13.8	-	-	-	-
4	10°43'N	114°35'W	10/15	2227-2259	0-241	1689.3	32.6	-	-	-	-
61-1	11°28'N	113°28'W	10/16	0823-0849	244-354	451.2	37.5	-	5100	-	-
2	11°30'N	113°30'W	10/16	0925-0956	0-43	1332.8	24.4	-	6800	-	-
3					68-121	959.8	81.4	-	-	-	-
4					151-259	842.4	4.3	-	-	-	-
5	11°32'N	113°31'W	10/16	1013-1050	0-207	1898.9	22.5	-	8000	2	33
63-1	12°22'N	112°27'W	10/16	2138-2209	0-62	1880.5	38.3	-	-	-	-
2					42-156	1283.9	32.7	-	-	-	-
3					94-315	1039.7	0.7	-	-	-	-
4	12°25'N	112°25'W	10/16	2225-2257	0-238	1635.5	18.0	-	-	-	-
65-1	07°00'N	108°37'W	10/27	2151-2220	0-43	1346.5	37.0	5,571	-	-	-
2					61-126	1039.2	1.9	409	-	-	-
3					137-263	592.5	0.3	14	-	-	-
4	06°57'N	108°38'W	10/27	2235-2305	0-205	1804.0	17.6	-	-	-	-
66-1	05°51'N	109°04'W	10/28	0950-1020	0-41	1191.6	31.5	6,043	-	-	-
2					72-119	1239.0	38.3	10,248	-	-	-
3					161-248	454.0	5.9	760	-	-	-
4	05°48'N	109°04'W	10/28	1033-1107	0-249	1719.5	20.7	-	2200-9200	2	27
68-1	04°34'N	109°24'W	10/28	2123-2153	0-48	1372.7	47.1	-	-	-	-
2					72-122	1075.3	37.3	-	-	-	-
3					161-245	943.5	15.8	-	-	-	-
4	04°32'N	109°24'W	10/28	2212-2246	0-206	2105.3	34.9	-	-	-	-
69-1	03°13'N	110°12'W	10/29	0926-0953	213-354	684.9	0.4	50	-	-	-
2	03°10'N	110°12'W	10/29	1027-1057	0-43	1178.2	41.1	7,516	4500	-	-
3					74-126	967.6	9.9	2,066	-	-	-
4					165-263	955.7	15.0	1,288	-	-	-
5	03°06'N	110°10'W	10/29	1114-1145	0-213	1599.8	18.9	-	8000	2	33
71-1	02°10'N	110°54'W	10/29	2320-2351	0-45	1347.6	102.3	10,907	-	-	-
2					78-130	1325.5	52.8	7,701	-	-	-
72-1	01°03'N	111°32'W	10/30	0952-1029	0-79	1652.5	13.3	577	-	-	-
2	01°02'N	111°31'W	10/30	1055-1132	0-256	1449.7	72.7	-	1200	3	18
74-1	00°14'S	112°20'W	10/30	2127-2157	0-50	1735.9	92.7	5,532	-	-	-
2					76-135	475.2	22.1	1,873	-	-	-
3					171-277	586.4	4.8	556	-	-	-
5	00°12'S	112°17'W	10/30	2253-2318	0-251	909.5	46.7	-	-	-	-

Table 3.--Zooplankton station data with sample volumes as cubic centimeters of zooplankton per 1,000 cubic meters of water strained, total number of organisms per 100 cubic meters of water strained, Secchi disc visibility, water color (Forel scale) and incident light measurement employing a Weston exposure meter, equipped with incident light attachment (cont'd)

Station Sample	Position		Date, 1955	Time, ZT	Sample depth, m.	Water strained, $m.^3$	Zooplankton		Incident light (foot candles)	Water color (Forel scale)	Secchi disc, m.
	Latitude	Longitude					Volume, $cc./1000\ m.^3$	Total $No./100\ m.^3$			
75-1	01°23'S	112°46'W	10/31	0922-0952	0-48	1335.9	126.0	17,894	-	-	-
2					54-122	413.6	35.1	4,030	-	-	-
3					121-245	950.5	15.6	1,282	-	-	-
4	01°26'S	112°47'W	10/31	1008-1037	0-211	1465.6	92.2	-	5100-6800	3	20
77-1	02°56'S	113°02'W	10/31	2130-2200	0-47	1152.8	145.0	11,413	-	-	-
3	02°58'S	112°59'W	10/31	2214-2241	0-252	1264.4	52.6	-	-	-	-
78-1	04°24'S	113°00'W	11/1	0953-1024	220-366	673.7	15.1	1,406	-	-	-
2	04°25'S	112°57'W	11/1	1057-1128	0-47	1600.0	30.1	5,585	-	-	-
3					66-136	788.1	15.2	1,578	-	-	-
4					147-293	733.4	21.4	2,987	-	-	-
5	04°25'S	112°52'W	11/1	1150-1223	0-183	1459.2	22.5	-	4500-5700	3	24
80-1	05°26'S	113°10'W	11/1	2144-2214	0-46	1535.3	34.3	4,681	-	-	-
2					63-133	722.0	22.2	1,764	-	-	-
3					141-277	805.0	20.4	2,364	-	-	-
4	05°28'S	113°07'W	11/1	2232-2300	0-245	1186.9	28.2	-	-	-	-
81-1	06°37'S	113°56'W	11/2	0941-1012	0-46	1237.4	8.5	329	-	-	-
3					147-310	686.1	8.0	832	-	-	-
4	06°38'S	113°51'W	11/2	1027-1055	0-238	1203.9	17.1	-	2200-4000	3	20
83-1	07°42'S	114°52'W	11/2	2127-2159	0-47	1264.4	19.5	3,130	-	-	-
3	07°45'S	114°55'W	11/2	2216-2245	0-219	1420.1	33.0	-	-	-	-
84-1	07°50'S	116°44'W	11/3	0936-1010	0-259	1292.9	12.5	-	-	-	-
2				0935-1013	0-261	937.5	16.5	-	-	-	-
3				1025-1048	0-238	880.0	20.5	-	-	-	-
4				1024-1051	0-241	635.3	24.4	-	-	-	-
85-3	07°56'S	120°04'W	11/4	0926-0957	157-276	686.8	19.7	2,848	-	-	-
4	07°58'S	120°02'W	11/4	1008-1037	0-230	1119.3	6.3	-	6800-8000	2	26
87-1	06°44'S	119°59'W	11/4	2144-2216	0-52	1395.0	38.3	4,860	-	-	-
2					80-135	554.5	4.3	681	-	-	-
3					180-273	617.3	14.1	-	-	-	-
88-1	05°15'S	120°07'W	11/5	0924-0953	232-366	834.2	11.5	1,345	-	-	-
2	05°16'S	120°04'W	11/5	1024-1053	0-35	1424.6	7.4	963	1700	-	-
3					66-124	804.3	20.3	3,856	-	-	-
90-1	04°15'S	120°00'W	11/5	2138-2210	0-46	1538.7	29.7	2,115	-	-	-
2					59-139	1198.9	43.5	3,395	-	-	-
3					68-295	1334.0	28.6	-	-	-	-
4	04°16'S	119°56'W	11/5	2223-2254	0-255	1303.5	45.6	-	-	-	-
91-1	02°48'S	120°06'W	11/6	0925-0956	0-40	1410.1	22.3	2,529	-	-	-
2					74-126	437.2	6.9	-	-	-	-
3					165-269	720.7	12.5	1,905	-	-	-
4	02°50'S	120°03'W	11/6	1008-1035	0-251	1140.6	13.0	-	4500-5700	2	26
93-1	01°35'S	119°59'W	11/6	2141-2212	0-38	1665.6	154.4	15,281	-	-	-
4	01°37'S	119°57'W	11/6	2227-2254	0-230	1231.5	90.9	-	-	-	-

Table 3.--Zooplankton station data with sample volumes as cubic centimeters of zooplankton per 1,000 cubic meters of water strained, total number of organisms per 100 cubic meters of water strained, Secchi disc visibility, water color (Forel scale) and incident light measurement employing a Weston exposure meter, equipped with incident light attachment (cont'd)

Station Sample	Position		Date, 1955	Time, ZT	Sample depth, m.	Water strained, $m.^3$	Zooplankton		Incident light (foot candles)	Water color (Forel scale)	Secchi disc, m.
	Latitude	Longitude					Volume, $cc./1000 m.^3$	Total No./$100 m.^3$			
94-1	00°11'S	119°58'W	11/7	0916-0946	0-50	1293.4	120.0	8,869	6800	-	-
2					72-146	590.2	11.5	955	-	-	-
3	00°13'S	119°55'W	11/7	0959-1031	0-245	1328.0	22.7	-	6800-7600	2	31
96-1	01°13'N	120°00'W	11/7	2142-2214	0-42	1042.3	142.5	10,904	-	-	-
2					72-122	915.3	27.3	871	-	-	-
3					161-256	906.0	5.8	535	-	-	-
4	01°13'N	119°56'W	11/7	2227-2258	0-230	1316.3	105.6	-	-	-	-
97-1	02°44'N	120°02'W	11/8	0922-0951	305-427	361.9	21.3	2,540	4000	-	-
2	02°46'N	120°02'W	11/8	1022-1051	0-41	1353.2	76.0	8,513	6800	-	-
3					70-119	147.7	19.6	-	-	-	-
4					157-329	29.0	144.8	-	-	-	-
5	02°48'N	120°01'W	11/8	1105-1138	0-317	1196.4	53.7	-	5700-6800	3	26
98-1	03°45.9'N	119°57.8'W	11/8	1732-1753	0-45	1409.0	126.5	16,248	-	-	-
99-1	03°46.2'N	120°01.0'W	11/8	1821-1841	0-7	1248.8	126.1	19,718	-	-	-
100-1	03°45.1'N	120°02.0'W	11/8	1903-1923	0-7	1265.3	59.7	7,342	-	-	-
101-1	03°44.5'N	120°02.9'W	11/8	1940-2000	0-4	1500.2	154.7	19,198	-	-	-
102-1	03°45.3'N	120°03.0'W	11/8	2023-2043	0-8	1150.9	197.6	25,443	-	-	-
103-1	03°50.0'N	120°07.8'W	11/8	2151-2212	0-7	1231.5	185.0	19,645	-	-	-
104-1	03°52.4'N	120°10.9'W	11/8	2258-2318	0-6	1406.7	99.7	8,324	-	-	-
108-1	04°32'N	119°49'W	11/9	0920-0950	0-47	1055.2	109.2	10,096	4500	-	-
2					78-136	1006.7	82.4	10,012	-	-	-
3					175-284	205.9	16.0	2,892	-	-	-
4	04°30'N	119°49'W	11/9	1002-1033	0-225	1244.3	78.0	-	4500-5700	2	31
110-1	05°49'N	120°00'W	11/9	2122-2152	0-47	1390.8	87.4	12,188	-	-	-
2					76-136	833.7	34.8	4,655	-	-	-
3					171-284	781.1	10.8	1,530	-	-	-
4	05°47'N	120°03'W	11/9	2206-2238	0-196	1508.3	45.1	-	-	-	-
111-1	05°10'N	121°20'W	11/10	0920-0950	0-49	1120.2	49.5	-	6800	-	-
2					66-127	715.7	45.4	-	-	-	-
3					147-257	1060.5	12.8	-	-	-	-
4	05°06'N	121°19'W	11/10	1003-1033	0-196	1348.7	35.1	-	5700-6400	2	24
113-1	04°05'N	122°31'W	11/10	2124-2156	0-46	1365.4	65.2	-	-	-	-
2					54-118	1105.2	39.4	-	-	-	-
3					121-237	666.4	3.8	-	-	-	-
4	04°02'N	122°30'W	11/10	2209-2239	0-235	1258.3	42.4	-	-	-	-
114-1	03°01'N	123°47'W	11/11	0919-0949	0-46	1785.6	31.7	-	-	-	-
2					102-124	155.3	7.1	-	-	-	-
4	03°00'N	123°43'W	11/11	1001-1032	0-251	1041.8	19.1	-	2200-2800	3	24
116-1	02°02'N	124°59'W	11/11	2139-2211	0-52	926.8	161.3	-	-	-	-
2					66-130	1161.3	43.9	-	-	-	-
3	02°01'N	124°56'W	11/11	2226-2257	0-242	865.5	123.6	-	-	-	-
117-1	01°19'N	126°17'W	11/12	0918-0948	0-43	1697.7	87.0	-	4500	-	-
2					63-126	742.1	52.6	-	-	-	-
3	01°18'N	126°14'W	11/12	1002-1029	0-245	1478.7	51.9	-	4500-5100	6	20

Table 3.--Zooplankton station data with sample volumes as cubic centimeters of zooplankton per 1,000 cubic meters of water strained, total number of organisms per 100 cubic meters of water strained, Secchi disc visibility, water color (Forel scale) and incident light measurement employing a Weston exposure meter, equipped with incident light attachment (cont'd)

Station Sample	Position		Date, 1955	Time, ZT	Sample depth, m.	Water strained, $m.^3$	Zooplankton		Incident light (foot candles)	Water color (Forel scale)	Secchi disc, m.
	Latitude	Longitude					Volume, $cc./1000\ m.^3$	Total No./$100\ m.^3$			
119-1	00°22'N	127°08'W	11/12	2137-2207	0-47	1871.5	155.0	-	-	-	-
2					63-136	387.0	26.6	-	-	-	-
3					141-284	697.8	8.5	-	-	-	-
4	00°21'N	127°06'W	11/12	2220-2249	0-214	1352.6	52.5	-	-	-	-
120-1	00°25'S	128°28'W	11/13	0924-0958	0-43	842.6	67.9	-	-	-	-
2					40-97	1817.8	37.5	-	-	-	-
3	00°24'S	128°32'W	11/13	1011-1040	0-219	1226.2	24.5	-	1700-5100	5	20
122-1	01°32'S	129°20'W	11/13	2134-2205	0-45	1344.2	362.3	-	-	-	-
2					63-113	952.0	83.5	-	-	-	-
3					141-229	944.4	4.3	-	-	-	-
4	01°35'S	129°18'W	11/13	2220-2252	0-214	1611.8	95.2	-	-	-	-
123-1	02°04'S	130°50'W	11/14	0850-0918	226-329	703.1	37.5	-	-	-	-
3	02°04'S	130°48'W	11/14	0947-1019	74-122	719.5	45.3	-	-	-	-
4					165-262	884.1	15.5	-	-	-	-
5	02°05'S	130°44'W	11/14	1042-1116	0-232	1529.5	41.2	-	8000-10000	3	24
125-1	01°09'S	131°42'W	11/14	2130-2200	0-47	1552.6	137.2	-	-	-	-
2					66-136	234.6	20.5	-	-	-	-
3					147-284	955.9	5.9	-	-	-	-
4	01°09'S	131°40'W	11/14	2212-2240	0-218	1214.2	90.2	-	-	-	-
126-1	00°10'N	133°10'W	11/15	0921-0952	0-48	1590.3	35.3	-	3400	-	-
2					61-122	1137.3	13.7	-	-	-	-
4	00°08'N	133°06'W	11/15	1013-1042	0-259	951.9	15.3	-	4500-5100	3	20
128-1	00°51'N	134°21'W	11/15	2135-2206	0-43	2115.7	145.3	-	-	-	-
2					78-126	166.7	29.4	-	-	-	-
3					175-263	220.9	6.8	-	-	-	-
4	00°51'N	134°18'W	11/15	2218-2250	0-278	1657.3	57.1	-	-	-	-
129-1	01°37'N	135°46'W	11/16	0919-0949	0-50	1891.6	32.3	-	5700	-	-
2					57-146	247.7	63.0	-	-	-	-
3					125-306	143.4	24.4	-	-	-	-
4	01°36'N	135°43'W	11/16	1000-1030	0-246	1381.0	18.2	-	6800-9200	3	27
131-1	03°06'N	136°56'W	11/16	2126-2158	0-48	2211.6	62.4	-	-	-	-
3					141-245	1116.2	5.9	-	-	-	-
4	03°09'N	136°56'W	11/16	2210-2240	0-219	1397.8	20.7	-	-	-	-
132-1	04°40'N	138°14'W	11/17	0921-0950	0-41	1403.4	36.8	-	3400	-	-
2					63-119	690.8	22.1	-	-	-	-
3					141-248	580.8	10.7	-	-	-	-
4	04°39'N	138°11'W	11/17	1001-1032	0-222	1415.9	29.7	-	5100-6800	2	29
134-1	05°36'N	139°12'W	11/17	2230-2302	0-54	1192.9	67.4	6,185	-	-	-
2					40-134	905.4	43.1	8,634	-	-	-
3					89-269	494.2	16.6	1,670	-	-	-
4	05°34'N	139°10'W	11/17	2315-2345	0-205	1713.1	46.7	-	-	-	-

Table 3.--Zooplankton station data with sample volumes as cubic centimeters of zooplankton per 1,000 cubic meters of water strained, total number of organisms per 100 cubic meters of water strained, Secchi disc visibility, water color (Forel scale) and incident light measurement employing a Weston exposure meter, equipped with incident light attachment (cont'd)

Station Sample	Position		Date, 1955	Time, ZT	Sample depth, m.	Water strained, $m.^3$	Zooplankton		Incident light (foot candles)	Water color (Forel scale)	Secchi disc, m.
	Latitude	Longitude					Volume, $cc./1000\ m.^3$	Total No./$100\ m.^3$			
135-1	04°35'N	139°14'W	11/18	0911-0940	213-360	551.5	17.8	1,753	-	-	-
2	04°32'N	139°11'W	11/18	1010-1040	0-40	1357.3	29.1	5,481	2200	-	-
3					66-116	1034.1	28.6	8,343	-	-	-
4					147-256	960.3	13.5	1,510	-	-	-
5	04°30'N	139°10'W	11/18	1055-1128	0-183	1766.6	17.7	-	5700	2	24
137-1	03°27'N	139°11'W	11/18	2128-2157	0-40	1502.7	72.2	6,063	-	-	-
2					72-116	708.7	16.9	1,592	-	-	-
3					161-240	480.6	8.1	708	-	-	-
4	03°25'N	139°09'W	11/18	2210-2240	0-245	1260.2	45.3	-	-	-	-
138-1	02°51'N	139°10'W	11/19	0406-0435	0-235	1401.4	28.9	-	-	-	-
139-1	02°27'N	139°13'W	11/19	0908-0939	0-45	1696.3	23.2	2,355	6800	-	-
2					70-130	716.3	11.2	1,803	-	-	-
4	02°25'N	139°12'W	11/19	0951-1021	0-238	1346.5	20.1	-	4500-6800	2	27
140-1	01°48'N	139°21'W	11/19	1503-1532	0-215	1428.5	16.5	-	-	-	-
142-1	01°14'N	139°27'W	11/19	2129-2200	0-49	1718.1	63.0	6,709	-	-	-
2					54-143	469.7	21.5	5,081	-	-	-
3					121-299	962.4	9.7	931	-	-	-
4	01°12'N	139°25'W	11/19	2212-2241	0-239	1344.2	32.6	-	-	-	-
143-1	00°39'N	139°53'W	11/20	0403-0433	0-219	1525.6	56.0	-	-	-	-
144-1	00°16'N	140°12'W	11/20	1005-1036	0-42	1988.7	94.1	6,564	8000	-	-
2					61-122	38.0	73.7	-	-	-	-
3	00°17'N	140°10'W	11/20	1047-1114	0-251	1175.1	43.6	-	8000	3	24
145-1	00°17'S	140°05'W	11/20	1502-1531	0-236	1246.0	34.7	-	-	-	-
147-1	01°05'S	140°00'W	11/20	2130-2200	0-42	1465.9	35.2	3,781	-	-	-
2					70-122	790.8	26.4	4,588	-	-	-
3					157-256	1243.5	7.2	642	-	-	-
4	01°09'S	139°59'W	11/20	2212-2242	0-219	1445.8	31.2	-	-	-	-
148-1	02°03'S	139°51'W	11/21	0401-0431	0-238	1333.1	32.4	-	-	-	-
149-1	02°43'S	139°46'W	11/21	0906-0935	0-46	1340.0	41.8	4,835	-	-	-
2					61-118	878.6	22.8	6,592	-	-	-
3					137-237	824.6	7.6	860	-	-	-
4	02°46'S	139°46'W	11/21	0946-1015	0-219	1380.2	20.9	-	6800	2	29
150-1	03°29'S	139°47'W	11/21	1503-1534	0-238	1370.7	47.5	-	-	-	-
152-1	04°03'S	139°42'W	11/21	2117-2147	0-45	1208.6	83.1	9,496	-	-	-
2					63-130	1094.9	28.0	5,942	-	-	-
3					141-271	621.5	9.5	557	-	-	-
4	04°04'S	139°39'W	11/21	2200-2230	0-211	1461.4	45.5	-	-	-	-
153-1	05°31'S	139°57'W	11/22	0907-0937	229-384	882.4	10.2	1,362	-	-	-
2	05°31'S	139°54'W	11/22	1008-1039	0-43	1339.8	21.0	2,857	-	-	-
3					63-126	966.4	33.0	9,249	-	-	-
4					141-268	761.9	16.3	2,347	-	-	-
5	05°31'S	139°52'W	11/22	1052-1122	0-239	1496.8	13.4	-	8000-9200	2	29

Table 3.--Zooplankton station data with sample volumes as cubic centimeters of zooplankton per 1,000 cubic meters of water strained, total number of organisms per 100 cubic meters of water strained, Secchi disc visibility, water color (Forel scale) and incident light measurement employing a Weston exposure meter, equipped with incident light attachment (cont'd)

Station Sample	Position		Date, 1955	Time, ZT	Sample depth, m.	Water strained, $m.^3$	Zooplankton		Incident light (foot candles)	Water color (Forel scale)	Secchi disc, m.
	Latitude	Longitude					Volume, $cc./1000\ m.^3$	Total $No./100\ m.^3$			
155-1	06°33'S	139°26'W	11/22	2128-2159	0-41	1459.7	38.7	5,445	-	-	-
2					66-119	317.6	73.4	11,374	-	-	-
3					147-248	987.9	6.5	1,188	-	-	-
4	06°33'S	139°22'W	11/22	2210-2238	0-211	1526.7	35.0	-	-	-	-
165-1	06°32'S	141°52'W	12/1	2133-2203	0-49	1359.2	99.8	-	-	-	-
2					57-125	1158.3	35.8	-	-	-	-
3					125-253	461.2	18.0	-	-	-	-
4	06°31'S	141°55'W	12/1	2215-2244	0-211	1401.5	51.4	-	-	-	-
166-1	05°14'S	143°06'W	12/2	1052-1122	0-37	1308.2	34.9	-	-	-	-
2					66-108	921.4	13.0	-	-	-	-
3					147-225	1185.7	13.6	-	-	-	-
4	05°14'S	143°03'W	12/2	1132-1200	0-211	1434.2	24.8	-	8000-9200	2	29
168-1	04°16'S	143°59'W	12/2	2126-2156	0-42	1259.8	52.8	-	-	-	-
2					70-118	849.3	36.5	-	-	-	-
4	04°14'S	143°56'W	12/2	2207-2235	0-211	1378.3	42.1	-	-	-	-
169-1	02°51'S	145°00'W	12/3	0918-0948	0-50	1354.7	46.2	-	6800	-	-
2					63-146	981.2	50.1	-	-	-	-
3					141-306	954.0	27.7	-	-	-	-
4	02°51'S	144°57'W	12/3	1001-1030	0-219	1324.0	31.9	-	7600-8000	2	31
171-1	01°40'S	145°48'W	12/3	2136-2206	0-40	1407.1	85.4	-	-	-	-
2					70-110	630.5	61.1	-	-	-	-
3					157-228	769.4	7.3	-	-	-	-
4	01°38'S	145°44'W	12/3	2218-2247	0-222	1277.2	69.7	-	-	-	-
172-1	00°33'S	146°56'W	12/4	0847-0916	244-360	356.1	31.2	-	-	-	-
2	00°33'S	146°53'W	12/4	0944-1015	0-42	1600.2	34.4	-	-	-	-
3					63-122	268.4	37.3	-	-	-	-
4	00°33'S	146°50'W	12/4	1028-1100	0-250	1346.4	49.0	-	9000	2	26
174-1	00°32'N	147°50'W	12/4	2133-2203	0-47	1755.5	66.8	-	-	-	-
2					70-136	428.8	27.5	-	-	-	-
3					157-284	561.1	3.0	-	-	-	-
4	00°32'N	147°46'W	12/4	2216-2247	0-262	1233.9	39.7	-	-	-	-
175-1	01°47'N	148°33'W	12/5	0918-0948	0-47	1637.1	52.7	-	-	-	-
2					74-136	441.2	17.0	-	-	-	-
3	01°47'N	148°30'W	12/5	1000-1030	0-211	1257.8	23.7	-	1300-9200	3	24
177-1	01°04'N	150°01'W	12/5	2129-2159	0-50	1809.1	76.8	-	-	-	-
2					82-146	627.3	39.1	-	-	-	-
3	01°03'N	150°04'W	12/5	2211-2239	0-271	1041.6	43.4	-	-	-	-
178-1	00°21'N	151°40'W	12/6	0917-0947	0-50	1580.1	33.6	-	6000	-	-
2					68-146	283.8	15.2	-	-	-	-
3					151-306	591.1	9.3	-	-	-	-
4	00°21'N	151°37'W	12/6	0957-1026	0-238	1065.4	17.9	-	5700-9200	2	20

Table 3.--Zooplankton station data with sample volumes as cubic centimeters of zooplankton per 1,000 cubic meters of water strained, total number of organisms per 100 cubic meters of water strained, Secchi disc visibility, water color (Forel scale) and incident light measurement employing a Weston exposure meter, equipped with incident light attachment (cont'd)

Station Sample	Position		Date, 1955	Time, ZT	Sample depth, m.	Water strained, $m.^3$	Zooplankton		Incident light (foot candles)	Water color (Forel scale)	Secchi disc, m.
	Latitude	Longitude					Volume, $cc./1000\ m.^3$	Total $No./100\ m.^3$			
180-1	00°11'S	153°04'W	12/6	2129-2158	0-42	1695.7	77.3	-	-	-	-
2					80-122	143.1	25.2	-	-	-	-
3					180-256	527.0	4.4	-	-	-	-
4	00°11'S	153°01'W	12/6	2215-2244	0-211	1119.8	41.9	-	-	-	-
181-1	00°47'S	154°24'W	12/7	0920-0949	0-47	1557.7	37.9	-	6800	-	-
2					57-136	298.4	30.2	-	-	-	-
3					125-284	729.6	11.6	-	-	-	-
4	00°44'S	154°20'W	12/7	1000-1030	0-211	1428.0	20.7	-	9000-10000	2	31
183-1	01°59'S	155°13'W	12/7	2135-2205	0-39	1189.2	65.6	-	-	-	-
2					63-111	917.8	38.1	-	-	-	-
3					141-233	960.1	8.9	-	-	-	-
4	01°59'S	155°11'W	12/7	2217-2246	0-211	1237.6	76.4	-	-	-	-
184-1	00°41'S	156°01'W	12/8	0922-0953	0-46	1456.8	54.9	-	-	-	-
2					59-133	281.5	32.7	-	-	-	-
185-1	00°35'N	157°47'W	12/8	2121-2152	0-53	1463.0	57.1	-	-	-	-
2					74-152	340.3	18.5	-	-	-	-
3					165-319	583.1	5.3	-	-	-	-
4	00°35'N	157°44'W	12/8	2204-2234	0-225	1080.9	34.7	-	-	-	-
186-1	02°18'N	157°57'W	12/10	0923-0955	0-37	1267.6	31.6	-	2200-8000	-	-
2					66-108	1137.7	29.1	-	-	-	-
3					147-225	477.8	11.3	-	-	-	-
4	02°17'N	157°55'W	12/10	1006-1038	0-219	1061.0	28.4	-	3400-6800	2	27
187-1	03°15'N	159°02'W	12/10	2116-2147	0-42	1209.1	70.3	-	-	-	-
2					68-122	407.7	25.0	-	-	-	-
3					151-256	1427.4	9.7	-	-	-	-
4	03°14'N	159°00'W	12/10	2158-2228	0-222	1118.3	48.7	-	-	-	-
188-1	04°09'N	160°19'W	12/11	0916-0946	0-38	1114.4	107.8	-	-	-	-
2					49-107	837.2	53.9	-	-	-	-
3					110-220	952.4	11.2	-	-	-	-
4	04°09'N	160°16'W	12/11	0958-1028	0-188	1216.0	72.0	-	6800-8000	3	24
189-1	05°13'N	161°21'W	12/11	2116-2146	0-40	1171.9	132.9	-	-	-	-
2					57-102	1173.6	30.7	-	-	-	-
3					125-204	1236.9	13.7	-	-	-	-
4	05°11'N	161°20'W	12/11	2159-2230	0-162	1141.9	79.0	-	-	-	-
190-1	05°56'N	162°13'W	12/12	0947-1016	0-50	1002.7	57.8	-	3400	-	-
2					63-137	935.2	31.0	-	-	-	-
3					141-283	1111.5	4.5	-	-	-	-
4	05°57'N	162°11'W	12/12	1027-1057	0-222	1105.0	35.6	-	2200-3400	2	20
191-1	07°17'N	161°52'W	12/12	2114-2145	0-45	1268.4	41.5	-	-	-	-
2				2111-2149	89-113	1344.3	36.5	-	-	-	-
3	07°18'N	161°50'W	12/12	2155-2225	199-229	1425.1	41.8	-	-	-	-
4				2152-2228	0-219	1294.0	37.6	-	-	-	-

Table 4.--Numbers of organisms per 100 cubic meters of water strained for 17 major categories of the zooplankton, sampled at stations on the 3 main north-south sections of the cruise crossing the Equator on 112°W., 120°W., and 140°W. longitude. Station positions and depth of sampling are given in table 7. A zero indicates none present; a hyphen indicates a number less than 0.6 per 100 cubic meters

Station Sample	Foraminifera	Radiolaria	Siphonophora	Chaetognatha	Annelida	Copepoda	Ostracoda	Euphausiacea	Amphipoda	Decapoda	Crustacean larvae	Pteropoda	Heteropoda	Tunicata	Eggs	Fish	Misc.
65-1	143	187	241	1809	18	1934	18	45	62	27	276	258	151	241	134	-	27
2	9	3	6	4	0	336	13	13	4	0	4	0	0	4	9	1	3
3	-	-	0	0	0	12	1	-	0	-	0	0	-	0	1	0	0
66-1	957	121	322	816	10	2971	0	0	81	91	10	70	30	312	222	0	30
2	562	136	387	988	58	6508	155	175	78	39	194	194	0	600	155	0	19
3	13	13	96	13	3	522	30	10	0	-	36	7	0	0	7	7	3
69-1	0	2	4	9	0	31	0	0	0	0	2	0	0	0	2	0	0
2	591	183	204	1365	10	4013	10	41	81	81	183	31	10	418	265	10	20
3	310	6	53	307	0	1138	34	28	87	0	19	6	3	22	19	31	3
4	0	19	107	75	82	672	88	56	13	0	38	0	0	100	38	-	0
71-1	641	285	534	2671	-	3669	36	392	143	71	321	285	71	285	1282	107	114
2	109	90	163	742	54	5305	127	201	181	41	145	54	18	163	199	37	72
72-1	0	40	36	69	0	359	4	4	22	11	0	0	0	7	14	-	11
74-1	0	0	138	387	28	2599	28	55	138	138	28	333	0	221	1355	-	84
2	44	32	95	183	19	1162	133	66	19	1	6	6	0	6	95	0	6
3	0	31	20	77	0	330	36	13	13	5	0	0	0	8	23	0	0
75-1	0	251	287	4096	0	10132	0	108	252	108	216	108	0	647	1581	36	72
2	0	14	43	261	0	943	0	101	43	0	0	14	0	2597	14	0	0
3	6	19	183	114	19	650	76	57	44	0	32	6	0	19	44	13	-
77-1	0	0	1207	2498	83	4955	42	543	251	42	375	208	0	458	625	42	84
78-1	0	44	44	125	0	957	111	36	23	0	9	9	0	13	31	4	0
2	0	210	202	847	0	3135	0	15	38	15	105	67	30	742	165	7	7
3	0	53	403	225	4	613	8	15	65	8	27	8	0	126	19	4	0
4	0	221	106	303	41	1898	262	41	50	0	8	0	8	0	33	0	16
80-1	0	39	680	688	0	1993	31	141	78	70	352	406	31	39	62	24	47
2	0	91	307	83	0	673	133	158	51	1	17	50	0	42	158	-	0
3	0	183	56	153	19	1517	123	28	4	1	0	7	0	4	265	4	4
81-1	14	2	39	53	0	58	0	75	19	51	2	7	5	0	2	0	2
3	4	44	22	26	0	516	181	4	0	0	0	4	0	17	7	0	7
83-1	0	104	85	76	-	996	0	28	0	47	0	380	0	0	1376	19	19
2	65	453	453	776	65	5819	776	589	66	129	194	1034	65	0	776	597	453

Table 4.--Numbers of organisms per 100 cubic meters of water strained for 17 major categories of the zooplankton, sampled at stations on the 3 main north-south sections of the cruise crossing the Equator on 112°W., 120°W., and 140°W. longitude. Station positions and depth of sampling are given in table 7. A zero indicates none present; a hyphen indicates a number less than 0.6 per 100 cubic meters (cont'd)

Station Sample	Foraminifera	Radiolaria	Siphonophora	Chaetognatha	Annelida	Copepoda	Ostracoda	Euphausiacea	Amphipoda	Decapoda	Crustacean larvae	Pteropoda	Heteropoda	Tunicata	Eggs	Fish	Misc.
85-3	13	105	105	275	13	1852	175	0	9	0	48	175	13	26	35	4	0
87-1	69	43	138	619	9	2262	52	447	34	740	146	138	26	69	0	34	34
2	0	8	27	76	3	417	73	30	22	-	3	0	0	11	8	3	0
88-1	11	119	40	101	0	845	79	79	11	7	14	4	7	7	14	0	7
2	0	398	63	114	0	185	2	6	10	76	42	4	6	2	0	53	2
3	22	112	179	477	7	2648	60	37	75	7	75	45	0	45	45	7	15
90-1	0	78	172	62	0	1092	31	234	8	328	62	8	16	8	8	-	8
2	150	110	230	300	30	1551	250	251	110	101	10	40	10	100	20	102	30
91-1	102	77	596	528	17	894	0	8	26	102	60	26	25	43	17	8	0
3	4	179	21	104	8	1099	337	0	8	0	4	79	0	33	21	0	8
93-1	0	58	1037	2478	-	9107	58	923	231	62	173	346	58	173	519	58	-
94-1	260	74	297	1225	0	5381	0	0	74	148	74	0	0	1262	74	0	0
2	20	163	41	56	0	544	61	5	10	0	5	15	0	0	15	20	0
96-1	691	92	460	1151	0	6585	92	496	323	0	0	0	46	783	0	139	46
2	20	7	52	72	0	557	20	55	55	-	13	0	0	0	7	0	13
3	0	23	3	23	0	377	53	27	3	-	0	0	0	3	23	0	0
97-1	8	83	41	141	8	1824	66	151	0	1	0	108	0	8	75	9	17
2	0	1809	248	887	35	1490	0	0	-	142	71	0	35	2980	745	71	0
98-1	0	68	0	1533	102	9845	0	34	170	170	68	68	0	681	3509	0	-
99-1	0	269	115	2345	0	12838	115	39	231	38	115	192	0	730	2691	-	0
100-1	0	190	95	1802	19	3775	0	512	228	19	360	152	0	152	0	0	38
101-1	0	1024	256	5311	192	8255	512	768	512	128	704	128	0	1152	192	0	64
102-1	0	1168	250	4171	167	14931	167	417	167	84	584	834	0	1001	1335	-	167
103-1	0	1013	156	6470	779	4911	78	2027	234	156	156	468	234	624	2261	-	78
104-1	1024	0	136	1262	0	3924	102	717	171	34	409	68	0	341	34	-	102

Table 4.--Numbers of organisms per 100 cubic meters of water strained for 17 major categories of the zooplankton, sampled at stations on the 3 main north-south sections of the cruise crossing the Equator on 112°W., 120°W., and 140°W. longitude. Station positions and depth of sampling are given in table 7. A zero indicates none present; a hyphen indicates a number less than 0.6 per 100 cubic meters (cont'd)

Station Sample	Foraminifera	Radiolaria	Siphonophora	Chaetognatha	Annelida	Copepoda	Ostracoda	Euphausiacea	Amphipoda	Decapoda	Crustacean larvae	Pteropoda	Heteropoda	Tunicata	Eggs	Fish	Misc.
108-1	318	637	227	3002	45	3912	0	0	182	136	182	45	0	1001	318	0	91
2	71	334	95	2885	48	4863	0	167	48	95	95	71	0	667	501	48	24
3	44	160	102	87	15	1377	219	58	0	0	58	692	0	7	58	0	15
110-1	380	207	690	1933	0	5695	69	656	173	278	380	173	138	794	552	1	69
2	317	101	367	367	58	2648	79	22	137	11	72	7	0	36	201	210	22
3	35	42	11	35	0	972	269	62	38	1	0	11	4	0	23	19	8
134-1	143	164	307	716	-	3274	41	537	42	245	82	123	41	0	389	61	20
2	305	583	437	981	40	4904	305	332	106	4	66	53	13	26	318	121	40
3	73	255	30	73	0	989	164	43	18	1	0	0	0	0	24	-	0
135-1	16	169	92	131	5	609	120	267	-	1	163	27	0	109	33	-	11
2	212	168	221	1344	9	2679	9	18	106	88	53	53	44	168	265	35	9
3	406	325	638	1102	12	5001	209	46	104	12	197	93	12	23	81	70	12
4	25	125	137	131	-	412	37	-	19	0	225	25	0	231	131	6	6
137-1	224	335	463	479	-	2204	32	464	17	199	591	160	32	591	128	64	80
2	76	114	76	59	13	728	157	93	42	36	25	25	0	42	72	13	21
3	9	100	28	125	0	300	34	-	0	-	9	6	3	9	44	25	16
139-1	120	198	403	792	14	228	0	42	14	106	113	49	7	78	156	28	7
2	33	67	276	121	17	988	105	17	46	4	54	17	8	25	21	4	-
142-1	154	182	251	698	28	3073	140	419	197	43	615	42	28	629	98	70	42
2	223	383	77	262	38	3360	326	26	26	84	19	19	0	109	109	20	0
3	3	72	6	47	0	655	100	13	6	7	3	0	0	0	16	3	0
144-1	1472	24	169	796	0	3476	0	0	48	145	72	121	24	121	48	24	24
147-1	0	622	82	377	0	2177	49	180	33	33	0	33	16	65	98	16	0
2	0	61	106	652	0	3149	197	94	106	70	45	0	0	30	38	40	0
3	0	60	5	46	2	434	68	6	7	-	2	7	0	0	5	0	0
149-1	519	340	36	949	0	1845	0	54	18	107	251	0	0	501	197	18	0
2	27	55	55	560	14	5641	41	34	14	7	89	7	0	7	20	14	7
3	0	29	25	15	0	626	44	4	4	0	25	15	0	36	33	4	0
152-1	417	357	298	1291	-	5520	40	417	101	120	199	60	40	258	318	20	40
2	55	131	153	515	11	3891	121	44	44	1	285	33	0	44	449	121	44
3	2	36	10	12	0	459	10	8	5	1	0	0	0	2	5	7	0

Table 4.--Numbers of organisms per 100 cubic meters of water strained for 17 major categories of the zooplankton, sampled at stations on the 3 main north-south sections of the cruise crossing the Equator on 112°W., 120°W., and 140°W. longitude. Station positions and depth of sampling are given in table 7. A zero indicates none present; a hyphen indicates a number less than 0.6 per 100 cubic meters (cont'd)

Station Sample	Foraminifera	Radiolaria	Siphonophora	Chaetognatha	Annelida	Copepoda	Ostracoda	Euphausiacea	Amphipoda	Decapoda	Crustacean larvae	Pteropoda	Heteropoda	Tunicata	Eggs	Fish	Misc.
153-1	41	102	54	41	0	853	163	41	3	-	10	34	0	0	14	3	3
2	349	116	134	636	0	976	0	18	27	206	99	18	27	72	143	36	0
3	683	174	112	1043	12	6643	161	25	25	25	25	74	12	99	124	12	0
4	8	55	138	75	8	1689	161	31	16	8	91	16	0	8	31	8	4
155-1	214	115	263	526	-	2581	247	198	363	115	148	329	16	197	99	1	33
2	378	227	283	1417	57	7273	340	264	151	94	227	57	0	0	529	58	19
3	42	15	33	42	9	771	146	27	24	3	15	3	6	3	12	25	12

Table 5.--Midwater trawl station data, with the volume and number of organisms captured in each 1-hour haul to approximately 350 meters depth

Station	Latitude	Longitude	Date, 1955	Time, ZT	Estimated hauling depth, m.	Volume of catch, cc.		Number of organisms	
						<2 cm.[1]	>2 cm.	<2 cm.	>2 cm.
2	10°50'N	156°07'W	9/26	2038-2142	0-337	10.6	82.3	437	164
5	07°55'N	155°18'W	9/27	2045-2230	0-339	13.6	54.6	414	84
8	05°30'N	154°52'W	9/28	2023-2140	0-462	11.3	108.1	310	105
11	06°25'N	153°24'W	9/29	2030-2143	0-382	16.6	187.8(tunicates, 107 cc.)	458	92
14	08°21'N	150°59'W	9/30	2024-2027	0-337	26.2	141.2(tunicates, 105 cc.)	260	137
17	10°21'N	148°47'W	10/1	2025-2144	0-395	19.0	202.4(tunicates, 65 cc.)	204	60
20	11°00'N	147°15'W	10/2	2027-2132	0-433	7.4	72.6	279	73
23	09°45'N	145°01'W	10/3	2020-2123	0-357	8.0	149.4(tunicates, 64 cc.)	143	81
26	08°37'N	142°41'W	10/4	2023-2133	0-298	26.0	157.4	181	88
29	08°50'N	140°08'W	10/5	2020-2120	0-265	27.0	113.4	145	88
32	10°25'N	137°48'W	10/6	2022-2127	0-337	25.0	144.8	286	108
35	10°50'N	135°39'W	10/7	2017-2118	0-629	21.2	85.9	436	69
38	09°40'N	132°58'W	10/8	2015-2112	0-357	17.3	100.1	220	130
41	09°30'N	130°01'W	10/9	2026-2128	0-337	11.7	788.6(tunicates, 700 cc.)	202	103
44	10°30'N	127°20'W	10/10	2023-2125	0-379	28.4	1527.5(1 fish and tun., 1380 cc.)	361	89
47	11°33'N	125°06'W	10/11	2012-2112	0-298	22.0	2184.8(1 fish, 2000 cc.)	454	142
50	11°23'N	122°32'W	10/12	2008-2108	0-337	20.2	237.8(tunicates, 175 cc.)	687	115
53	09°30'N	120°03'W	10/13	2010-2109	0-318	23.4	260.4(tunicates, 170 cc.)	279	123
56	09°10'N	117°35'W	10/14	2012-2112	0-337	19.2	103.7(tunicates, 78 cc.)	198	108
59	10°38'N	114°39'W	10/15	2016-2117	0-298	22.4	74.8	324	85
62	12°20'N	112°30'W	10/16	2011-2112	0-322	5.3	207.2(tunicates, 155 cc.)	241	82
64	07°06'N	108°36'W	10/27	2025-2128	0-337	20.0	117.0	397	119
67	04°39'N	109°24'W	10/28	2002-2102	0-318	13.8	93.9	505	126
70	02°10'N	110°53'W	10/29	1938-2039	0-337	70.0	77.3	260	102
73	00°12'S	112°25'W	10/30	2003-2104	0-375	26.2	109.0	242	99
76	02°54'S	113°08'W	10/31	2006-2107	0-318	45.1	304.9(1 fish, 260 cc.)	478	53
79	05°24'S	113°18'W	11/1	2019-2120	0-413	31.2	64.3	865	85
82	07°37'S	114°48'W	11/2	2003-2105	0-357	8.8	192.5(1 fish, 140 cc.)	288	70
86	06°43'S	120°06'W	11/4	2015-2117	0-329	15.1	50.0	392	57
89	04°13'S	120°06'W	11/5	2003-2103	0-337	33.0	86.3	565	78
92	01°32'S	120°05'W	11/6	2017-2118	0-318	55.3	152.4	1118	127
95	01°06'N	120°00'W	11/7	2016-2118	0-318	82.3	90.3	222	75
105	03°54'N	120°01'W	11/9	0005-0106	0-375	23.0	942.8(tunicates, 740 cc.)	152	158
109	06°04'N	120°00'W	11/9	1955-2057	0-357	23.0	174.0	157	240
112	04°10'N	122°33'W	11/10	2002-2102	0-298	27.1	354.2(tunicates, 225 cc.)	230	160
115	02°03'N	125°05'W	11/11	2011-2114	0-318	72.3	240.2(tunicates, 100 cc.)[2]	1137	100
118	00°23'N	127°14'W	11/12	2012-2112	0-395	79.6	264.9(1 fish, 200 cc.)	655	67
121	01°28'S	129°24'W	11/13	2008-2108	0-357	252.7	222.0	4038	1780
124	01°09'S	131°48'W	11/14	2005-2106	0-375	42.6	104.2	436	91
127	00°51'N	134°26'W	11/15	2005-2106	0-337	28.2	89.4	513	260

[1] Largest body dimension.

[2] Plus an estimated 20 liters of Pyrosoma which were discarded.

Table 5.--Midwater trawl station data, with the volume and number of organisms captured in each 1-hour haul to approximately 350 meters depth(cont'd)

Station	Latitude	Longitude	Date, 1955	Time, ZT	Estimated hauling depth, m.	Volume of catch, cc.		Number of organisms	
						<2 cm.[1/]	<2 cm.	<2 cm.	>2 cm.
130	03°00'N	136°51'W	11/16	2010-2107	0-279	27.0	77.8	290	81
133	05°31'N	139°15'W	11/17	2107-2207	0-375	41.0	200.0	343	133
136	03°31'N	139°15'W	11/18	2005-2106	0-357	30.0	138.6	179	207
141	01°18'N	139°31'W	11/19	2012-2109	0-379	16.5	139.7	138	318
146	00°57'S	140°00'W	11/20	2010-2107	0-318	15.1	315.7(tunicates, 200 cc.)	75	75
151	04°03'S	139°49'W	11/21	1955-2056	0-318	16.2	122.6(tunicates, 75.5 cc.)	201	119
154	06°33'S	139°30'W	11/22	2005-2105	0-337	10.0	72.2	165	50
164	06°37'S	141°53'W	12/1	2010-2111	0-337	28.3	108.4	280	45
167	04°20'S	143°55'W	12/2	2010-2104	0-279	40.2	69.7	627	262
170	01°41'S	145°53'W	12/3	2013-2114	0-337	39.1	833.0(tunicates, 470 cc.)	255	301
173	00°38'N	147°46'W	12/4	2011-2107	0-239	17.2	683.9(tunicates, 410 cc.)	272	254
176	01°07'N	149°56'W	12/5	2010-2107	0-318	21.1	585.9(tunicates, 225 cc.)	255	151
179	00°09'S	153°00'W	12/6	2013-2108	0-394	20.8	208.7(tunicates, 100 cc.)	164	109

[1/] Largest body dimension.

Table 6.--Positions and results of C^{14} and chlorophyll pigment observations, together with related surface temperature and inorganic phosphate concentrations

Station	Date, 1955	Surf. time, ZT	Position		Mg.C/hr./m^3		Chlorophyll, equiv. to mg./$m.^3$			Surf. temp., °F.	PO_4-P µg at./L.
			Latitude	Longitude	Surf.	20 m.	C_a	C_b	C_c [1/]		
3	10/25	-	15°36'N	105°36'W			.736	.892	.934	79.1	-
4	10/26	-	12°01'N	106°57'W			.763	-.034	2.033	81.2	-
5	10/27	-	08°25'N	108°16'W			.831	.020	1.220	78.9	-
64	10/27	1910	07°06'N	108°36'W	.051	.018	-	-	-	78.8	0.34
						.053					
66	10/28	0834	05°52'N	109°05'W	.415	.420	.255	.403	1.465	78.8	0.22
67	10/28	1906	04°39'N	109°24'W	.066	.068	-	-	-	78.0	0.25
69	10/29	0808	03°13'N	110°12'W	.570	.512	.394	.195	2.177	76.9	0.32
70	10/29	1910	02°14'N	110°55'W	.127	.075	-	-	-	75.8	0.35
72	10/30	0804	01°04'N	111°33'W	.975	.874	.464	.279	1.037	68.4	0.50
73	10/30	1903	00°12'S	112°25'W	.295	.241	-	-	-	67.5	0.74
75	10/31	0810	01°23'S	112°46'W	.736	.940	.611	.319	2.180	69.3	0.78
						.648					
76	10/31	1907	02°54'S	113°08'W	.090	.073	-	-	-	70.4	1.21
78	11/1	0805	04°24'S	113°00'W	.558	.608	.138	-.020	.822	69.9	1.14
79	11/1	1902	05°24'S	113°18'W	.102	.079	-	-	-	71.6	0.94
81	11/2	0804	06°37'S	113°56'W	.505	.469	.446	.303	1.984	72.4	0.86
82	11/2	1903	07°37'S	114°48'W	.070	.064	-	-	-	73.4	0.98
84	11/3	0833	07°49'S	116°47'W	.434	.341	.209	.181	1.640	73.6	1.12
85	11/4	0802	07°56'S	120°04'W	.453	.522	.276	.322	1.296	74.7	0.87
86	11/4	1905	06°43'S	120°06'W	.392	.057	-	-	-	74.4	0.87
88	11/5	0802	05°14'S	120°08'W	.664	.290	.223	.096	1.348	74.3	0.71
89	11/5	1904	04°13'S	120°06'W	.118	.043	-	-	-	74.1	0.80
91	11/6	0808	02°48'S	120°06'W	1.240	.578	.147	.193	.556	72.7	0.68
92	11/6	1903	01°32'S	120°05'W	.588	.211	-	-	-	71.1	0.70
94	11/7	0803	00°11'S	119°58'W	1.456	.766	.261	.247	1.603	68.9	1.34
95	11/7	1902	01°06'N	120°00'W	.271	.187	-	-	-	69.0	1.06
97	11/8	0804	02°44'N	120°02'W	1.415	1.448	.559	.321	1.461	69.8	1.05
99	11/8	1821	04°00'N	120°12'W	.662	-	-	-	-	73.3	0.77
101	11/8	1945	03°58'N	120°20'W	.144	-	.614	.357	.580	72.4	0.80
103	11/8	2152	04°06'N	120°24'W	.254	-	-	-	-	76.6	0.12
108	11/9	0815	04°48'N	120°08'W	.920	.513	.291	.257	.786	76.5	1.02
109	11/9	1906	06°04'N	120°00'W	.101	.180	-	-	-	78.0	0.37
						.054					
111	11/10	1037	05°10'N	121°20'W	.495	.603	.796	.220	.741	77.9	0.46
114	11/11	1034	03°01'N	123°47'W	.515	.652	.763	.047	1.826	75.9	2.73
117	11/12	1030	01°19'N	126°17'W	1.830	1.050	2.980	-.013	.152	70.6	1.22
120	11/13	1042	00°25'S	128°28'W	1.130	1.240	.474	.152	1.181	69.7	1.00
123	11/14	1125	02°04'S	130°50'W	.800	1.040	.710	.158	1.388	70.6	0.91
						1.430					
126	11/15	1046	00°10'N	133°10'W	.480	.391	.579	.366	1.757	75.2	0.66
129	11/16	1033	01°37'N	135°46'W	.602	.442	.064	-.608	.339	75.1	2.07
132	11/17	1033	04°40'N	138°14'W	.379	.481	.218	-.125	.432	77.0	0.51
133	11/17	2011	05°41'N	139°15'W	.117	.262	-	-	-	80.0	0.37
135	11/18	0803	04°35'N	139°14'W	.516	.418	.144	-.156	.759	78.8	0.42
136	11/18	1911	03°31'N	139°14'W	.085	.076	-	-	-	76.3	0.64
138	11/19	0404	02°51'N	139°10'W	.430	.428	-	-	-	76.0	-

[1/] Data are given in terms of MSPU as defined by Richards and Thompson (1952).

Table 6.--Positions and results of C^{14} and chlorophyll pigment observations, together with related surface temperature and inorganic phosphate concentrations (cont'd)

Station	Date, 1955	Surf. time, ZT	Position		Mg.C/hr./m^3		Chlorophyll, equiv. to mg./$m.^3$			Surf. temp., °F.	PO_4-P µg at./L.
			Latitude	Longitude	Surf.	20 m.	C_a	C_b	C_c 1/		
139	11/19	0804	02°27'N	139°14'W	.546	.496	.138	-.083	.604	74.9	0.63
140	11/19	1503	01°48'N	139°21'W	.415	.563	-	-	-	74.8	0.61
141	11/19	1907	01°18'N	139°31'W	.174	.129	-	-	-	73.3	0.70
143	11/20	0358	00°39'N	139°53'W	.633	.554	-	-	-	72.9	0.74
144	11/20	0807	00°16'N	140°11'W	.814	.784	.297	-.127	.277	73.2	0.84
145	11/20	1458	00°17'S	140°05'W	.834	2.720	-	-	-	74.2	0.89
146	11/20	1910	00°57'S	140°00'W	.148	.152	-	-	-	75.0	0.92
148	11/21	0358	02°03'S	139°51'W	.255	.316	-	-	-	76.2	0.86
149	11/21	0806	02°42'S	139°47'W	.673	.454	.284	.063	.553	75.1	0.61
150	11/21	1459	03°29'S	139°47'W	.309	.354	-	-	-	75.9	0.84
151	11/21	1905	04°03'S	139°49'W	.012	.292	-	-	-	76.3	0.85
					-.037						
153	11/22	0804	05°31'S	139°57'W	-.017	.478	.440	.309	2.360	76.8	0.69
					.467						
154	11/22	1906	06°33'S	139°30'W	.068	.059	-	-	-	77.0	0.71
166	12/2	1209	05°14'S	143°06'W	.233	.292	.114	.182	1.080	77.0	0.87
169	12/3	1032	02°51'S	145°00'W	.420	.318	.334	.192	1.290	76.4	0.95
172	12/4	1108	00°33'S	146°55'W	.636	.458	.358	-.011	1.036	74.0	0.99
175	12/5	1035	01°47'N	148°33'W	.582	.611	.206	.085	.616	76.8	0.71
178	12/6	1031	00°21'N	151°40'W	.856	.754	.206	.085	.616	74.3	1.03
181	12/7	1037	00°47'S	154°24'W	.893	.902	.475	.152	.687	75.7	0.84
184	12/8	1036	00°41'S	156°01'W	.856	.784	.142	.031	.277	75.4	0.80
186	12/10	1039	02°18'N	157°57'W	.657	.534	.284	.063	.553	77.0	0.82
188	12/11	1028	04°09'N	160°19'W	.780	.872	.128	.107	.678	76.8	0.63
190	12/12	1100	05°56'N	162°13'W	.501	.467	.063	.054	.339	81.0	0.48
192	12/13	1008	08°47'N	161°26'W	.131	.251	-	-	-	80.6	0.45
193	12/14	1004	12°02'N	160°45'W	.128	.197	-	-	-	78.2	0.47
						.122					
194	12/15	1005	15°22'N	160°15'W	.168	.404	-	-	-	77.0	0.48
195	12/16	1004	18°54'N	159°29'W	.598	.586	-	-	-	75.8	0.96
196	12/16	0652	20°13'N	159°27'W	.778	.104	-	-	-	75.5	0.41
					.089	.051					
197	12/16	2129	20°28'N	159°09'W	.178	.065	-	-	-	76.0	0.70
					.059	.031					
198	12/16	0012	20°43'N	158°50'W	.058	.145	-	-	-	75.2	0.74
						.282					
199	12/17	0316	21°03'N	158°27'W	.132	.345	-	-	-	75.1	0.33
						.191					
200	12/17	0544	21°16'N	158°10'W	.432	.398	-	-	-	75.1	0.78
					.246	.183					
201	12/17	0624	21°18'N	158°08'W	.326	.364	-	-	-	74.5	0.50
						.245					

1/ Data are given in terms of MSPU as defined by Richards and Thompson (1952).

NOTES ON TABULATED OCEANOGRAPHIC DATA, HMS-31

Where more than one cast was made on a station, they are separated by a horizontal line. The cast number is indicated by a Roman numeral in the margin.

Where the corrected, paired, protected thermometer readings differed by more than 0.05°C. below 300 m. or more than 0.10°C. above 300 m., both temperature values are tabulated and the depth and salinity are repeated. Delta-t calculated using each temperature value is carried.

Weather is recorded in the ww (present weather) code given in the U. S. Weather Bureau Circular M, eighth edition, Manual of Marine Meteorological Observations. Cloud coverage is in tenths of sky.

Wind velocity was measured with an anemometer 30 meters above the sea surface. The direction (given to the nearest 10°) is that from which the wind was blowing, measured through 360° from north.

Ten oxygen samples for each station were titrated. On an ordinary 13-bottle cast, oxygen samples were run for all but the 8th, 10th and 12th bottles. Exceptions are stations H1 and H31 where samples from the first 10 bottles were used.

Phosphate samples were tested for the first 10 bottles of station H1. From station H2 through H7, phosphates were run for all bottles excepting the 8th, 10th and 12th. On station 8 the lumetron stopped working after the sample from the 9th bottle was run. From station 9 on, a few samples from each station were frozen and analyzed ashore.

Explanatory Code for Tabulated Data

NG - The value or line is in error and is discarded.

NS - This water sample was lost.

PT - Nansen bottle pretripped and data are unusable.

Table 7.--Oceanographic station data

Station 64 (H1): 07°06'N., 108°36'W., October 28, 1955. Messenger time: 0248 GCT. Weather: 02, cloud coverage 8. Wind: 250°, 16 kt. Sea: 3-5 ft. Wire angle: 30°. BT slide: 299. Dry bulb: 78.8°F. Wet bulb: 73.5°F. Barometric pressure: 1012.8 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	26.04	33.49	592.2	5.25	0.34
48	26.08	33.55	589.0	5.09	0.34
70	25.02	33.92	531.2	4.57	0.41
97	16.86	34.69	265.4	1.28	1.86
145	12.52	34.85	164.6	0.80	2.22
194	11.66	34.79	153.3	0.73	2.18
293	10.53	34.73	138.3	1.01	2.34
397	09.36	34.69	122.3	0.79	2.44
498	08.34	34.65	109.9	0.31	2.78
599	07.27	34.59	099.4	0.25	3.21
805	05.68	34.56	081.4	-	-
1009	04.62	34.56	069.7	-	-
1217	04.00	34.56	063.3	-	-

Station 66 (H2): 05°52'N., 109°05'W., October 28, 1955. Messenger time: 1600 GCT. Weather: 02, cloud coverage 7. Wind: 180°, 13 kt. Sea: 1-3 ft. Wire angle: 10°. BT slide: 305. Dry bulb: 77.1°F. Wet bulb: 72.5°F. Barometric pressure: 1014.5 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	25.98	33.96	556.6	4.66	0.22
56	26.01	34.00	554.2	4.75	0.28
92	21.33	34.57	382.8	3.29	1.22
122	15.30	34.70	230.7	0.92	2.00
NG	-	-	-	-	-
224	11.24	34.79	146.0	0.86	2.24
336	09.92	34.72	129.0	0.84	2.52
453	08.76	34.66	115.3	-	-
565	07.32	34.60	099.2	0.27	2.81
678	06.14	34.56	087.0	-	-
896	04.88	34.58	070.9	1.00	2.68
1116	04.18	34.59	062.8	-	-
1323	03.66	34.61	056.3	1.47	2.78

Table 7.--Oceanographic station data (cont'd)

Station 67 (H3): 04°39'N., 109°24'W., October 29, 1955. Messenger time: 0230 GCT. Weather: 02, cloud coverage 2. Wind: 160° 12 kt. Sea: 1-3 ft. Wire angle: 08°. BT slide: 310. Dry bulb: 75.4°F. Wet bulb: 69.0°F. Barometric pressure: 1014.0 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	25.62	34.18	530.0	4.69	0.25
88	22.22	34.70	396.9	3.18	0.92
104	17.68	34.71	282.7	1.83	1.59
130	14.16	34.79	200.7	0.66	2.10
156	12.40	34.80	166.0	0.77	1.96
213	11.14	34.74	147.9	1.23	2.01
317	09.80	34.72	127.0	1.02	2.27
426	08.81	34.67	115.3	-	-
529	07.72	34.61	104.1	0.28	2.56
637	06.74	34.60	091.5	-	-
847	05.22	34.56	076.2	1.08	2.72
1050	04.46	34.57	067.3	-	-
1256	03.72	34.61	057.0	1.53	2.59

Station 69 (H4): 03°13'N., 110°12'W., October 29, 1955. Messenger time: 1538 GCT. Weather: 02, cloud coverage 3. Wind: 140° 16 kt. Sea: 3-5 ft. Wire angle: 50°. BT slide: 316. Dry bulb: 74.9°F. Wet bulb: 67.8°F. Barometric pressure: 1014.0 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	24.94	NS	-	4.80	0.32
42	24.68	34.24	498.4	4.85	0.35
54	24.48	34.27	490.5	4.71	0.40
66	18.16	34.74	291.6	3.70	1.15
97	14.35	34.94	193.5	1.80	1.68
130	13.57	34.94	178.0	1.86	1.71
191	12.85	34.92	165.6	1.73	1.80
255	12.45	34.92	158.1	-	-
317	11.90	34.85	153.1	0.78	2.18
384	10.75	34.77	138.9	-	-
520	08.36	34.64	110.9	0.28	2.71
659	07.08	34.64	092.8	-	-
659	06.98	34.64	091.5	-	-
813	05.84	34.57	082.6	1.10	2.84

Table 7.--Oceanographic station data (cont'd)

Station 70 (H5): 02°10'N., 110°53'W., October 30, 1955. Messenger time: 0526 GCT. Weather: 02, cloud coverage 7. Wind: 140°, 15 kt. Sea: 3-5 ft. Wire angle: 55°. BT slide: 321. Dry bulb: 72.0°F. Wet bulb: 66.0°F. Barometric pressure: 1014.7 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
0	24.53	34.18	498.2	NS	0.35
14	24.57	34.09	505.9	4.73	0.31
24	24.59	34.11	505.1	4.70	0.31
35	23.00	34.47	434.5	3.88	0.61
53	18.25	34.81	288.8	4.07	0.88
67	14.54	34.96	196.0	2.20	1.10
PT	-	-	-	-	-
PT	-	-	-	-	-
108	13.34	34.97	171.4	1.89	1.22
134	13.03	34.95	166.9	-	-
162	12.78	34.92	164.3	1.67	1.34
217	12.44	34.92	158.0	-	-
265	11.89	34.88	150.6	0.75	1.54

Station 72 (H6): [1/] 01°04'N., 111°33'W., October 30, 1955. Messenger time: first cast 1538 GCT, second cast 1559 GCT. Weather: 02, cloud coverage 8. Wind: 140°, 17 kt. Sea: 3-5 ft. Wire angle: first cast 45°, second cast 40°. BT slide: 326. Dry bulb: 69.8°F. Wet bulb: 63.2°F. Barometric pressure: 1015.4 mb.

OBSERVED

	Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
	0	22.26	34.21	433.4	4.58	0.50
	7	22.26	34.20	434.0	4.58	0.53
	16	22.14	34.25	427.2	4.43	0.58
	33	19.84	34.68	336.9	4.35	0.86
I	60	17.86	34.82	278.8	4.57	1.09
	94	16.06	34.97	227.3	1.86	1.65
II	163	12.47	34.92	158.3	1.37	1.87
	PT	-	-	-	-	-
	328	11.42	34.87	143.3	0.50	2.26
	410	10.07	34.72	131.1	-	-
	410	10.00	34.72	130.1	-	-
	117 [2/]	13.58	34.97	176.1	1.92	1.67
	PT	-	-	-	-	-
	586	07.74	34.64	102.1	0.87	2.60

[1/] Station made underway to reduce wire angle.
[2/] Pretrip but data appear reasonable on station curves.

Table 7.--Oceanographic station data (cont'd)

1/

Station 73 (H7): 00°12'S., 112°25'W., October 31, 1955. Messenger time: 0227 GCT. Weather: 02, cloud coverage 0. Wind: 110°, 11 kt. Sea: 1-3 ft. Wire angle: 30°. BT slide: 331. Dry bulb: 67.5°F. Wet bulb: 64.6°F. Barometric pressure: 1013.0 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	19.84	34.66	338.3	4.53	0.74
21	19.60	34.70	329.5	4.44	0.80
47	18.82	34.81	302.5	4.15	0.93
73	14.35	34.94	193.5	1.95	1.56
86	14.10	34.94	188.6	2.11	1.56
134	12.59	34.90	162.0	2.15	1.54
191	12.32	34.90	157.1	2.32	1.58
288	11.96	34.87	152.6	-	-
389	10.17	34.70	134.3	0.56	2.30
486	08.12	34.64	107.3	-	-
486	07.99	34.64	105.3	-	-
584	07.34	34.63	097.2	1.07	2.43
778	05.63	34.58	079.5	-	-
1035	04.77	34.58	069.8	1.92	2.46

1/ Station made underway to reduce wire angle.

Station 75 (H8): 01°23'S., 112°46'W., October 31, 1955. Messenger time: 1632 GCT. Weather: 02, cloud coverage 8. Wind: 090°, 11 kt. Sea: 1-3 ft. Wire angle: 06°. BT slide: 337. Dry bulb: 70.8°F. Wet bulb: 67.0°F. Barometric pressure: 1015.1 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
3	20.70	34.93	340.6	4.74	0.78
29	20.64	34.93	339.0	4.71	0.81
50	17.41	35.00	255.4	2.71	1.32
70	14.39	34.97	192.1	1.36	1.74
107	12.78	34.93	163.6	1.52	1.71
164	12.44	34.89	160.2	1.29	1.57
231	12.06	34.90	152.3	0.81	1.76
345	10.94	34.83	137.7	-	-
464	08.52	34.67	111.1	0.62	2.00
578	06.88	34.60	093.2	-	-
691	06.15	34.60	084.1	1.53	-
911	05.02	34.56	073.8	-	-
1078	04.00	34.58	061.8	2.07	-

Table 7.--Oceanographic station data (cont'd)

Station 76 (H9): 02°54'S., 113°08'W., November 1, 1955. Messenger time: 0329 GCT. Weather: 02, cloud coverage 8. Wind: 100°, 15 kt. Sea: 1-3 ft. Wire angle: 03°. BT slide: 342. Dry bulb: 70.1°F. Wet bulb: 67.0°F. Barometric pressure: 1014.6 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
0	21.48	35.07	350.6	4.83	1.21
22	20.54	35.07	326.4	4.48	1.51
43	13.96	34.99	182.1	1.69	2.14
64	13.40	34.97	172.5	0.90	2.45
106	12.74	34.94	162.0	1.35	2.32
159	12.61	34.90	162.5	1.31	-
217	12.45	34.90	159.6	1.14	-
322	11.68	34.87	147.8	-	-
432	09.15	34.72	116.7	0.25	-
537	07.78	34.64	102.6	-	-
646	06.88	34.60	093.3	0.76	-
859	05.44	34.57	077.9	-	-
1064	04.43	34.56	067.7	1.92	-

Station 78 (H10): 04°24'S., 113°00'W., November 1, 1955. Messenger time: first cast 1632 GCT, second cast 1704 GCT. Weather: 02, cloud coverage 7. Wind: 120°, 16 kt. Sea: 3-5 ft. Wire angle: first cast 35°, second cast 45°. BT slide: 347. Dry bulb: 71.5°F. Wet bulb: 66.8°F. Barometric pressure: 1016.6 mb.

OBSERVED

	Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
	0	21.10	34.99	346.5	4.76	1.14
	16	20.98	34.99	343.5	4.76	1.16
	32	15.20	35.05	203.0	1.50	1.92
	64	13.39	34.99	170.8	0.86	NS
	112	12.80	34.92	164.7	1.38	1.84
	165	12.60	34.94	159.4	1.00	-
	245	12.18	34.92	153.0	0.84	-
	330	11.28	34.85	142.1	-	-
I	412	09.52	34.74	121.1	0.21	-
	498	08.30	34.65	109.3	-	-
II	666	06.94	34.58	095.5	0.98	-
	826	05.82	34.54	084.6	-	-
	1002	04.62	34.79	052.5	1.52	-

Table 7.--Oceanographic station data (cont'd)

Station 79 (H11)[1]: 05°24'S., 113°18'W., November 2, 1955. Messenger time: first cast 0335 GCT, second cast 0345 GCT. Weather: 02, cloud coverage 1. Wind: 110°, 16 kt. Sea: 3-5 ft. Wire angle: first cast 20°, second cast 20°. BT slide: 352. Dry bulb: 71.5°F. Wet bulb: 67.2°F. Barometric pressure: 1015.3 mb.

OBSERVED

	Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
I	0	22.14	35.03	370.9	5.00	0.94
	34	22.02	35.07	365.0	5.05	NG
II	NG[2]	-	-	-	-	-
	43	19.73	35.05	307.3	4.98	0.74
	43	19.83	35.05	309.8	-	-
	96	13.33	34.96	171.9	0.84	2.50
	159	12.82	34.94	163.5	0.78	2.26
	265	12.13	34.90	153.6	0.23	-
	377	10.82	34.79	138.5	0.14	-
	NG	-	-	-	-	-
	591	07.68	34.64	101.2	-	-
	801	05.77	34.56	082.5	1.22	-
	1012	04.64	34.58	068.3	-	-
	1253	03.86	34.57	061.3	2.05	-

[1] Station made underway to reduce wire angle.

[2] Bottle did not trip. Dropped its messenger when raised, tripping remaining bottles 55 meters too high and without soaking time at this depth.

Station 81 (H12)[1]: 06°37'S., 113°56'W., November 2, 1955. Messenger time: 1631 GCT. Weather: 02, cloud coverage 5. Wind: 110°, 18 kt. Sea: 3-5 ft. Wire angle: 10°. BT slide: 358. Dry bulb: 73.8°F. Wet bulb: 68.0°F. Barometric pressure: 1017.5 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
0	22.46	35.08	375.7	5.09	0.86
47	22.49	35.08	376.6	5.08	0.91
78	22.19	35.09	367.9	4.34	1.05
114	15.54	35.01	213.4	1.89	1.74
160	12.80	34.94	163.1	0.18	2.29
227	11.84	34.92	147.0	0.30	-
340	10.61	34.83	132.2	0.29	-
460	09.06	34.70	116.8	-	-
573	07.71	34.63	102.5	0.79	-
685	06.63	34.56	093.1	-	-
905	05.28	34.54	078.3	1.62	-
1123	04.42	34.51	071.4	-	-
1329	03.66	34.60	057.1	2.35	-

[1] Station made underway to reduce wire angle.

Station 82 (H13): 07°37'N., 114°48'W., November 3, 1955. Messenger time: 0325 GCT. Weather: 02, cloud coverage not recorded. Wind: 100°, 15 kt. Sea: 3-5 ft. Wire angle: 24°. BT slide: 363. Dry bulb: 73.8°F. Wet bulb: 69.0°F. Barometric pressure: 1015.0 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	23.07	35.24	380.8	5.01	0.98
53	22.94	35.21	379.4	5.00	0.85
77	22.32	35.11	370.0	4.98	1.14
106	22.10	35.30	350.4	4.65	1.03
160	13.76	34.90	184.6	0.29	NG
212	12.13	34.90	153.6	0.28	-
319	10.89	34.83	136.8	0.41	-
432	09.51	34.72	122.5	-	-
538	08.16	34.65	107.2	0.86	-
646	07.29	34.60	098.7	-	-
856	05.37	34.52	080.8	1.20	-
1067	04.34	34.54	068.3	-	-
1272	03.68	34.57	059.5	2.22	-

Station 85 (H14)[1/]: 07°56'S., 120°04'W., November 4, 1955. Messenger time: 1628 GCT. Weather: 02, cloud coverage 1. Wind: 110°, 18 kt. Sea: 3-5 ft. Wire angle: 18°. BT slide: 379. Dry bulb: 75.2°F. Wet bulb: 68.0°F. Barometric pressure: 1016.1 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	23.72	35.31	394.0	4.97	0.87
53	23.76	35.31	395.0	4.89	NG
102	23.39	35.73	354.5	4.62	0.74
126	20.17	35.64	275.6	3.91	0.97
170	15.16	34.99	206.5	2.06	1.84
212	12.26	34.78	164.7	0.99	-
320	09.97	34.74	128.1	1.22	-
433	08.67	34.67	113.2	-	-
NG	NG	34.72	-	1.31	-
648	06.76	34.54	096.2	-	-
859	05.28	34.52	079.8	1.41	-
1071	04.28	34.56	066.0	-	-
1276	03.62	34.56	059.8	2.29	-

[1/] Station made underway to reduce wire angle.

Table 7.--Oceanographic station data (cont'd)

Station 86 (H15): 06°43'S., 120°06'W., November 5, 1955. Messenger time: 0335 GCT. Weather: 02, cloud coverage 1. Wind: 110°, 19 kt. Sea: 3-5 ft. Wire angle: 25°. BT slide: 384. Dry bulb: 74.1°F. Wet bulb: 68.9°F. Barometric pressure: not recorded.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
0	23.68	35.25	397.2	4.89	0.87
43	23.62	35.23	397.0	4.88	0.91
80	23.14	35.34	375.5	4.78	0.85
123	20.82	35.71	287.3	4.80	0.86
166	14.06	34.97	185.6	0.68	2.60
208	12.24	34.92	154.2	0.20	-
313	10.95	34.81	139.3	0.36	-
423	09.40	34.74	119.2	-	-
528	07.93	34.65	103.9	1.05	-
634	06.82	34.58	094.0	-	-
842	05.41	34.56	078.3	1.36	-
1051	04.52	34.54	070.2	-	-
1253	03.71	34.56	060.7	2.36	-

Station 88 (H16)[1/]: 05°14'S., 120°08'W., November 5, 1955. Messenger time: 1634 GCT. Weather: 62, cloud coverage 8. Wind: 110°, 20 kt. Sea: 3-5 ft. Wire angle: 22°. BT slide: 390. Dry bulb: 72.3°F. Wet bulb: 69.9°F. Barometric pressure: 1015.0 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
0	23.58	35.30	390.6	4.86	0.71
41	23.62	35.30	392.0	4.89	1.07
77	23.24	35.62	358.1	4.70	0.87
118	15.68	35.12	208.3	2.05	1.60
162	12.94	34.92	167.2	0.17	2.61
200	11.97	34.88	152.0	0.31	-
300	10.70	34.81	135.0	0.31	-
407	09.24	34.71	111.6	-	-
508	07.98	34.63	105.9	1.10	-
610	06.98	34.60	094.5	-	-
811	05.61	34.54	082.3	1.36	-
1015	04.54	34.54	070.4	-	-
1216	03.62	34.58	058.4	2.36	-

[1/] Station made underway to reduce wire angle.

Table 7.--Oceanographic station data (cont'd)

Station 89 (H17)[1]: 04°13'S., 120°06'W., November 6, 1955. Messenger time: 0326 GCT. Weather: 02, cloud coverage 2. Wind: 120°, 15 kt. Sea: 3-5 ft. Wire angle: 29°. BT slide: 395. Dry bulb: 73.7°F. Wet bulb: 68.2°F. Barometric pressure: 1015.3 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
0	23.58	35.46	379.2	4.89	0.80
66	23.50	35.46	376.9	4.88	0.95
94	17.13	35.23	232.5	2.55	1.60
122	13.37	34.90	177.0	0.77	2.52
164	12.33	34.92	155.9	1.72	2.14
206	11.72	34.87	148.6	1.18	-
309	10.38	34.78	132.0	0.21	-
417	08.77	34.70	112.5	-	-
521	07.82	34.67	100.9	0.98	-
624	06.76	34.63	089.4	-	-
PT	-	-	-	-	-
PT	-	-	-	-	-
540[2]	07.65	34.67	098.6	0.75	-

[1] Station made underway to reduce wire angle.
[2] Pretrip but data appear reasonable on station curves.

Station 91 (H18)[1]: 02°48'S., 120°06'W., November 6, 1955. Messenger time: 1632 GCT. Weather: 02, cloud coverage 1. Wind: 110°, 15 kt. Sea: 3-5 ft. Wire angle: 12°. BT slide: 401. Dry bulb: 73.9°F. Wet bulb: 68.9°F. Barometric pressure: 1014.0 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
0	22.58	35.16	373.1	4.94	0.68
53	22.52	35.35	358.0	4.62	1.23
77	15.28	35.01	207.6	1.38	2.04
106	13.54	34.98	174.7	0.85	2.42
159	12.79	34.95	162.1	0.54	-
212	12.44	34.90	159.4	0.46	-
319	11.17	34.83	141.7	0.18	-
429	08.88	34.68	115.6	-	-
536	07.70	34.63	102.3	0.96	-
643	06.67	34.58	092.0	-	-
643	06.61	34.58	091.5	-	-
853	05.24	34.58	075.0	1.66	-
1065	04.44	34.58	066.3	-	-
1268	03.59	34.60	056.4	2.13	-

[1] Station made underway to reduce wire angle.

Table 7.--Oceanographic station data (cont'd)

1/
Station 92 (H19): 01°32'S., 120°05'W., November 7, 1955. Messenger time: 0339 GCT. Weather: 02, cloud coverage not recorded. Wind: 150°, 14 kt. Sea: 1-3 ft. Wire angle: 38°. BT slide: 406. Dry bulb: 71.9°F. Wet bulb: 68.4°F. Barometric pressure: 1012.9 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	21.87	34.90	373.0	4.84	0.70
28	21.68	34.90	368.1	4.86	1.03
60	15.20	35.01	205.9	1.60	2.04
101	13.03	34.96	166.2	0.93	1.96
154	12.43	34.92	157.8	0.85	-
204	12.14	34.88	155.2	1.00	-
306	11.66	34.87	147.5	1.04	-
414	09.49	34.74	120.6	-	-
519	07.58	34.63	100.6	1.04	-
623	06.47	34.58	089.4	-	-
829	05.11	34.56	075.0	1.60	-
1039	04.10	34.56	064.3	-	-
PT	-	-	-	-	-

1/ Station made underway to reduce wire angle.

1/
Station 94 (H20): 00°11'S., 119°58'W., November 7, 1955. Messenger time: 1627 GCT. Weather: 02, clear. Wind: 130°, 13 kt. Sea: 1-3 ft. Wire angle: 08°. BT slide: 412. Dry bulb: 70.9°F. Wet bulb: 68.2°F. Barometric pressure: 1013.6 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	20.36	34.94	331.1	4.27	1.34
31	17.92	35.16	255.5	3.55	1.57
57	15.24	35.05	204.0	3.14	1.32
84	14.38	34.99	190.5	3.04	1.60
126	13.03	34.96	166.1	2.75	1.34
184	12.24	34.88	157.1	2.18	-
232	11.84	34.85	152.1	1.48	-
347	10.86	34.78	140.0	-	-
469	08.68	34.69	111.9	0.58	-
584	07.66	34.63	101.7	-	-
699	06.24	34.56	088.2	1.43	-
921	05.09	34.56	074.5	-	-
1143	04.12	34.58	063.1	1.92	-

1/ Station made underway to reduce wire angle.

Table 7.--Oceanographic station data (cont'd)

Station 95 (H21): 01°06'N., 120°00'W., November 8, 1955. Messenger time: first cast 0325 GCT, second cast 0340 GCT. Weather: 02, cloud coverage 7. Wind: 110°, 9 kt. Sea: 1-3 ft. Wire angle: first cast 28°, second cast 30°. BT slide: 417. Dry bulb: 69.8°F. Wet bulb: 68.0°F. Barometric pressure: 1013.3 mb.

OBSERVED

	Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
I	0	20.64	34.92	339.8	4.54	1.06
II	39	20.06	34.87	328.6	4.37	1.10
	56	19.77	34.78	327.6	4.31	1.29
	69	18.25	34.78	291.1	3.37	1.46
	96	14.16	34.92	191.1	1.72	1.86
	144	13.07	34.92	169.7	1.34	-
	192	12.62	34.90	162.7	1.53	-
	289	12.04	34.87	153.8	-	-
	392	10.32	34.74	133.9	0.86	-
	490	08.93	34.67	117.1	-	-
	588	07.54	34.60	102.2	0.93	-
	786	05.80	34.54	084.4	-	-
	989	04.73	34.52	073.8	1.85	-

Station 97 (H22)[1/]: 02°44'N., 120°02'W., November 8, 1955. Messenger time: 1635 GCT. Weather: 02, cloud coverage 6. Wind: 150°, 11 kt. Sea Sea: 1-3 ft. Wire angle: 22°. BT slide: 423. Dry bulb: 71.4°F. Wet bulb: 68.9°F. Barometric pressure: 1014.4 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
0	20.80	34.58	368.5	4.79	1.05
28	20.60	34.65	358.2	4.65	1.18
57	20.08	34.83	331.9	4.58	NG
73	19.94	34.83	328.5	4.56	1.24
91	19.27	34.85	310.3	4.55	NG
91	19.49	34.85	315.9	-	-
110	14.08	34.85	194.8	1.57	-
128	13.46	34.94	175.8	1.41	-
192	12.66	34.92	162.0	-	-
260	11.82	34.87	150.2	0.78	-
325	10.92	34.81	138.8	-	-
325	11.00	34.81	140.2	-	-
391	09.95	34.76	126.4	1.10	-
391	10.00	34.76	127.2	-	-
523	08.16	34.67	105.8	-	-
523	08.24	34.67	107.0	-	-
661	06.85	34.60	092.9	0.69	-

[1/] Station made underway to reduce wire angle.

Table 7.--Oceanographic station data (cont'd)

Station 108 (H23): 04°48'N., 120°08'W., November 9, 1955. Messenger time: 1633 GCT. Weather: 02, cloud coverage 7. Wind: 140°, 15 kt. Sea: 3-5 ft. Wire angle: 35°. BT slide: 457. Dry bulb: 75.9°F. Wet bulb: 70.5°F. Barometric pressure: 1013.9 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	24.82	34.47	485.8	4.77	1.02
12	24.82	34.47	485.8	4.81	0.38
23	24.81	34.47	485.6	4.70	0.33
50	23.63	34.38	458.3	4.67	0.44
85	23.00	34.38	440.9	4.68	0.60
128	20.62	34.67	357.1	4.45	-
171	14.74	34.70	219.2	1.22	-
257	10.71	34.67	145.6	-	-
347	09.68	34.70	126.7	1.26	-
434	09.13	34.67	120.0	-	-
521	08.40	34.65	110.7	0.47	-
695	06.60	34.56	092.7	-	-
874	05.28	34.54	078.3	1.24	-

Station 109 (H24): 06°04'N., 120°00'W., November 10, 1955. Messenger time: 0323 GCT. Weather: 01, cloud coverage not recorded. Wind: 150°, 10 kt. Sea: 1-3 ft. Wire angle: 28°. BT slide: 463. Dry bulb: 76.2°F. Wet bulb: 72.2°F. Barometric pressure: 1011.5 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	25.58	34.61	498.0	4.67	0.37
47	25.58	34.63	496.5	4.70	0.50
65	25.58	34.60	498.6	4.66	NG
87	25.56	34.61	497.3	4.64	0.54
105	24.77	34.65	471.3	4.58	0.46
144	17.16	34.72	270.1	2.27	-
192	12.58	34.79	170.1	0.56	-
290	10.87	34.70	146.0	-	-
390	09.50	34.67	126.0	0.53	-
488	08.62	34.63	115.5	-	-
585	07.70	34.58	106.0	0.23	-
777	05.96	34.52	087.6	-	-
975	04.82	34.54	073.2	0.98	-

Table 7.--Oceanographic station data (cont'd)

Station 133 (H25): 05°41'N., 139°15'W., November 18, 1955. Messenger time: 0532 GCT. Weather: 02, cloud coverage 5. Wind: 120° 13 kt. Sea: 3-5 ft. Wire angle: 10°. BT slide: 551. Dry bulb: 77.5°F. Wet bulb: 72.2°F. Barometric pressure: 1011.0 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	26.47	34.72	516.5	4.60	0.37
31	26.44	34.72	515.6	4.64	0.33
52	25.62	34.83	483.2	4.60	-
103	21.16	34.81	361.1	3.58	-
155	14.07	34.65	209.3	1.59	-
212	11.05	34.74	146.3	0.72	-
315	09.72	34.69	127.9	1.03	-
423	08.94	34.67	117.2	-	-
526	07.96	34.61	107.2	0.54	-
634	07.00	34.56	097.7	-	-
844	05.37	34.54	079.3	0.91	-
1047	04.42	34.56	067.7	-	-
1253	03.80	34.58	060.0	1.54	-

Station 135 (H26): 04°35'N., 139°14'W., November 18, 1955. Messenger time: 1725 GCT. Weather: 02, cloud coverage 7. Wind: 130° 17 kt. Sea: 3-5 ft. Wire angle: 22°. BT slide: 556. Dry bulb: 77.8°F. Wet bulb: 73.8°F. Barometric pressure: 1011.1 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	26.08	34.88	493.2	4.66	0.42
52	26.11	34.90	492.7	4.65	0.47
75	24.92	34.88	459.1	4.66	-
104	22.41	34.87	389.7	3.84	-
155	14.72	34.69	219.3	1.86	-
207	10.72	34.69	144.4	1.26	-
311	09.49	34.69	124.4	1.82	-
419	08.74	34.67	114.4	-	-
524	07.82	34.58	107.6	0.64	-
630	06.82	34.54	097.0	-	-
834	05.33	34.54	078.9	1.03	-
1042	04.37	34.56	067.1	-	-
1243	03.84	34.56	061.9	1.68	-

Table 7.--Oceanographic station data (cont'd)

1/
Station 136 (H27): 03°31'N., 139°15'W., November 19, 1955. Messenger time: 0430 GCT. Weather: 15, cloud coverage 6. Wind: 120°, 18 kt. Sea: 3-5 ft. Wire angle: 36°. BT slide: 561. Dry bulb: 76.1°F. Wet bulb: 71.6°F. Barometric pressure: 1010.2 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
0	24.63	34.81	455.6	4.77	0.64
52	24.65	34.88	451.4	4.71	0.66
76	23.99	34.88	432.7	4.64	-
105	21.81	34.92	370.1	4.00	-
129	21.08	34.90	352.7	3.79	-
158	14.78	34.67	222.2	2.02	-
211	10.78	34.61	146.6	1.72	-
317	09.53	34.69	125.0	-	-
430	08.86	34.65	117.5	1.08	-
536	07.75	34.61	104.4	-	-
643	06.64	34.58	091.8	0.92	-
855	05.30	34.58	075.6	-	-
1068	04.30	34.58	064.9	1.63	-

1/ Station made underway to reduce wire angle.

1/
Station 139 (H28): 02°27'N., 139°14'W., November 19, 1955. Messenger time: 1725 GCT. Weather: 01, cloud coverage 2. Wind: 120°, 17 kt. Sea: 3-5 ft. Wire angle: 12°. BT slide: 567. Dry bulb: 75.9°F. Wet bulb: 71.0°F. Barometric pressure: 1010.9 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
0	23.72	34.81	429.8	4.85	0.63
55	23.69	34.79	430.6	4.80	0.62
79	22.40	34.85	390.8	4.20	-
109	19.47	34.83	316.7	4.53	-
134	14.16	34.87	194.9	1.54	-
163	12.30	34.90	156.8	1.23	-
218	11.59	34.85	147.8	1.94	-
327	10.82	34.78	139.3	-	-
327	10.77	34.78	138.5	-	-
441	09.02	34.69	117.0	0.91	-
551	07.52	34.60	101.8	-	-
661	06.60	34.61	089.0	1.16	-
876	05.26	34.58	075.1	-	-
1091	04.30	34.60	063.4	1.83	-

1/ Station made underway to reduce wire angle.

Table 7.--Oceanographic station data (cont'd)

1/
Station 141 (H29): 01°18'N., 139°31'W., November 20, 1955. Messenger time: first cast 0422 GCT, second cast 0443 GCT. Weather: 02, cloud coverage 1. Wind: 120°, 13 kt. Sea: 3-5 ft. Wire angle: first cast 24°, second cast 30°. BT slide: 572. Dry bulb: 73.4°F. Wet bulb: 70.1°F. Barometric pressure: 1009.9 mb.

OBSERVED

	Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
	0	22.99	34.85	406.8	4.74	0.70
	30	22.84	34.85	402.6	4.68	0.78
	55	22.77	34.85	400.8	4.57	-
	81	22.34	34.87	387.8	4.29	-
	111	20.41	34.88	336.6	3.56	-
	167	14.44	34.87	200.6	2.91	-
I	222	12.32	34.87	159.4	1.17	-
	333	11.43	34.83	146.4	-	-
II	431	09.29	34.70	120.3	0.97	-
	538	07.58	34.61	102.0	-	-
	857	05.32	34.56	077.3	1.89	-
	PT	-	-	-	-	-
	1068	04.54	34.54	070.4	1.82	-

1/ Station made underway to reduce wire angle.

1/
Station 144 (H30): 00°16'N., 140°11'W., November 20, 1955. Messenger time: first cast 1738 GCT, second cast 1825 GCT. Weather: 02, cloud coverage 4. Wind: 100°, 16 kt. Sea: 3-5 ft. Wire angle: first 23°, second cast 19°. BT slide: 578. Dry bulb: 74.6°F. Wet bulb: 70.2°F. Barometric pressure: 1011.4 mb.

OBSERVED

	Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
	0	22.94	35.08	388.8	4.63	0.84
	44	22.88	35.16	381.2	4.46	0.84
	72	22.64	35.23	369.9	4.25	NG
	106	21.62	35.32	336.2	3.72	1.03
	135	19.35	35.16	289.9	3.25	-
	169	14.38	35.10	182.5	3.03	-
I	212	12.30	34.92	155.3	2.71	-
	319	11.53	34.87	145.2	-	-
II	449	09.36	34.70	121.5	1.06	-
	560	07.94	34.61	107.0	-	-
	560	07.88	34.61	106.1	-	-
	671	06.68	34.56	093.7	1.37	-
	886	05.26	34.56	076.6	-	-
	1104	04.34	34.54	068.3	1.98	-

1/ Station made underway to reduce wire angle.

Table 7.--Oceanographic station data (cont'd)

1/
Station 146 (H31): 00°57'S., 140°00'W., November 21, 1955. Messenger time: 0442 GCT. Weather: 02, cloud coverage 3. Wind: 100°, 13 kt. Sea: 3-5 ft. Wire angle: 45°. BT slide: 583. Dry bulb: 74.0°F. Wet bulb: 70.8°F. Barometric pressure: 1010.8 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
0	23.92	35.32	399.0	4.77	0.92
16	23.96	35.32	400.1	4.71	0.87
36	23.89	35.32	398.0	4.68	NG
73	23.62	35.28	393.3	4.65	0.82
148	13.20	34.96	169.3	0.84	-
227	11.77	34.87	149.3	2.36	-
306	11.34	34.83	144.9	1.25	-
386	10.66	34.78	136.6	1.06	-
550	07.54	34.58	103.7	1.11	-
729	06.14	34.54	088.5	1.62	-

1/ Short cast because of bad splice in wire.

Station 149 (H32): 02°42'S., 139°47'W., November 21, 1955. Messenger time: 1722 GCT. Weather: 02, cloud coverage 7. Wind: 100°, 18 kt. Sea: 3-5 ft. Wire angle: 27°. BT slide: 589. Dry bulb: 76.2°F. Wet bulb: 72.0°F. Barometric pressure: 1013.5 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, μg at./L.
0	24.04	35.34	401.0	4.78	0.61
50	24.03	35.32	402.2	4.79	0.76
68	23.82	35.28	399.0	4.73	-
91	21.55	35.77	301.8	4.54	-
118	16.48	35.23	217.6	2.17	-
159	13.33	34.97	171.1	0.82	-
200	12.67	34.94	160.6	0.74	-
301	11.88	34.90	149.1	-	-
407	10.36	34.78	131.5	0.31	-
509	08.32	34.65	109.6	-	-
611	07.06	34.60	095.6	1.25	-
714	06.16	34.56	087.1	-	-
919	05.02	34.56	073.9	1.65	-

Table 7.--Oceanographic station data (cont'd)

Station 151 (H33): 04°03'S., 139°49'W., November 22, 1955. Messenger time: 0423 GCT. Weather: 02, cloud coverage 2. Wind: 090°, 14 kt. Sea 3-5 ft. Wire angle: 21°. BT slide: 594. Dry bulb: 75.8°F. Wet bulb: 72.9°F. Barometric pressure: 1011.6 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	24.67	35.30	421.6	4.83	0.85
42	24.14	35.28	408.0	4.81	0.90
65	23.24	35.26	384.1	4.73	-
93	22.77	35.26	371.1	4.44	-
121	18.83	35.52	251.0	3.43	-
153	13.74	35.01	176.3	1.03	-
205	12.60	34.94	159.4	0.75	-
308	11.62	34.88	146.1	-	-
416	09.92	34.76	125.9	0.24	-
520	08.32	34.67	108.1	-	-
624	06.94	34.61	093.2	1.08	-
729	06.08	34.58	084.6	-	-
948	04.78	34.58	069.7	2.06	-

Station 153 (H34): 05°31'S., 139°57'W., November 22, 1955. Messenger time: 1726 GCT. Weather: 02, cloud coverage 3. Wind: 100°, 19 kt. Sea: 3-5 ft. Wire angle: 37°. BT slide: 600. Dry bulb: 77.8°F. Wet bulb: 72.5°F. Barometric pressure: 1014.6 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	24.79	35.26	428.1	4.82	0.69
35	24.80	35.26	428.4	4.85	-
66	24.82	35.26	429.0	4.81	-
100	24.66	35.66	395.6	4.57	-
135	21.77	36.11	283.0	4.12	-
170	16.36	35.19	217.8	2.84	-
205	13.92	34.96	183.4	1.54	-
256	11.92	34.90	149.9	-	-
346	10.48	34.78	133.6	0.48	-
432	09.58	34.74	122.0	-	-
520	08.42	34.67	109.6	0.61	-
649	06.98	34.60	094.5	-	-
795	05.77	34.54	083.9	1.23	-

Table 7.--Oceanographic station data (cont'd)

Station 154 (H35): 06°33'S., 139°30'W., November 23, 1955. Messenger time: 0432 GCT. Weather: 02, cloud coverage 3. Wind: 100°, 16 kt. Sea: 3-5 ft. Wire angle: 22°. BT slide: 605. Dry bulb: 76.8°F. Wet bulb: 72.2°F. Barometric pressure: 1013.6 mb.

OBSERVED

Depth, m.	T, °C.	S, °/oo	δ t, cl./ton	O_2, ml./L.	PO_4-P, µg at./L.
0	24.77	35.30	424.4	-	0.71
44	24.60	35.28	421.2	4.83	-
82	24.50	35.62	394.0	4.54	-
126	22.74	36.13	308.1	4.11	-
161	20.64	35.79	276.9	3.79	-
213	14.54	35.05	189.4	1.68	-
256	12.20	34.94	151.9	1.80	-
320	10.16	34.79	127.5	-	-
432	08.66	34.70	110.9	1.77	-
539	07.90	34.65	103.5	-	-
646	06.81	34.60	092.4	1.98	-
803	05.75	34.60	079.3	-	-
976	04.84	34.56	072.0	2.09	-

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
1	2340	9/23	20°47'N	157°53'W	78.4	160	11	78.2	71.5	1013.9	02	8	5	9	2	-	-
2	0430	9/24	20°24'N	157°45'W	78.2	120	13	76.7	71.8	1013.8	01	6,8,4	2	8	3	-	-
3	0805	9/24	19°49'N	157°36'W	78.0	170	08	77.0	71.5	1015.0	02	-	-	9	2	-	-
4	1220	9/24	19°13'N	157°26'W	77.5	140	17	75.5	71.8	1013.2	02	-	-	8	3	-	-
5	1600	9/24	18°42'N	157°19'W	77.2	115	14	76.3	71.7	1013.4	03	8	4	9	3	-	-
6	2005	9/24	18°06'N	157°13'W	77.1	110	18	77.4	71.4	1014.6	02	8	3	9	3	-	-
7	0005	9/25	17°48'N	157°10'W	77.8	100	17	78.0	72.6	1012.8	02	8	2	9	3	-	-
8	0400	9/25	17°23'N	157°04'W	78.1	080	20	76.5	70.2	1012.4	02	8	2	9	3	-	-
9	0810	9/25	16°49'N	156°58'W	78.5	080	19	77.0	71.0	1014.1	02	8	2	9	3	-	-
10	1200	9/25	16°15'N	156°52'W	77.7	082	21	76.5	71.5	1012.0	02	8	1	9	3	-	-
11	1600	9/25	15°46'N	156°46'W	77.8	070	19	76.6	71.8	1011.7	02	1,8	3	9	3	-	-
12	2005	9/25	15°08'N	156°40'W	78.0	070	19	78.0	72.0	1012.9	02	5,8	3	9	3	-	-
13	0000	9/26	14°39'N	156°35'W	78.8	067	19	76.9	71.2	1010.7	02	8,1	3	8	3	-	-
14	0400	9/26	14°06'N	156°30'W	78.9	066	18	78.0	72.6	1011.2	03	8,1	5	8	3	-	-
15	0800	9/26	13°32'N	156°26'W	78.0	052	17	78.5	72.7	1013.3	02	8	3	9	3	-	-
16	1200	9/26	12°59'N	156°21'W	79.0	050	20	78.0	73.2	1011.4	03	8	5	8	3	-	-
17	1600	9/26	12°25'N	156°17'W	79.5	060	18	78.5	72.8	1012.2	03	3,1,8	6	8	2	-	-
18	1805	9/26	12°08'N	156°15'W	79.7	060	17	79.8	74.3	1013.5	02	8	6	9	2	34.43	0.35
19	2210	9/26	11°56'N	156°11'W	80.2	050	14	80.6	74.7	1012.2	03	6,8	7	9	2	-	-
20	0005	9/27	11°40'N	156°11'W	80.3	047	17	80.0	74.3	1011.1	03	6,8	7	9	2	-	-
21	0205	9/27	11°24'N	156°10'W	80.1	057	21	74.8	73.2	1010.8	61	0	8	7	2	-	-
22	0405	9/27	11°08'N	156°09'W	80.1	040	13	77.1	72.4	1013.6	01	6,8	7	9	2	-	-
23	0600	9/27	10°52'N	156°06'W	80.3	052	16	77.8	74.2	1012.7	02	6,8	7	8	2	-	-
(3)*	0830	9/27	10°42'N	156°04'W	-	-	-	-	-	-	-	-	-	-	-	34.07	0.39
24	1020	9/27	10°35'N	156°04'W	80.3	040	18	78.5	74.1	1013.1	02	5,6,8	7	8	2	-	-
25	1205	9/27	10°21'N	156°01'W	80.0	052	26	73.0	72.5	1012.5	63	0	X	X	2	-	-
26	1405	9/27	10°07'N	155°58'W	79.9	110	16	76.9	73.0	1012.4	01	X	5	8	2	-	-
27	1605	9/27	09°50'N	155°56'W	79.9	002	16	77.5	72.9	1012.6	02	4	3	9	2	-	-
28	1805	9/27	09°35'N	155°52'W	80.4	-	00	81.0	75.0	1014.2	02	4,8	3	9	2	-	-
29	1920	9/27	09°27'N	155°50'W	80.7	020	11	80.0	75.0	1014.8	03	4,5,8	7	8	2	-	-

*Plankton station number; see table 3 for additional information.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
(4)*	2015	9/27	09°24'N	155°50'W	-	-	-	-	-	-	-	-	-	-	-	33.91	0.32
30	2140	9/27	09°14'N	155°48'W	81.1	080	05	80.4	75.8	1013.6	02	1,6,8	6	8	2	-	-
31	0005	9/28	08°54'N	155°40'W	81.9	095	03	78.2	71.2	1011.9	02	4,6	6	9	2	-	-
32	0205	9/28	08°37'N	155°33'W	82.4	055	10	79.9	75.1	1011.4	02	8	3	9	2	-	-
33	0405	9/28	08°20'N	155°26'W	82.2	071	06	80.2	75.2	1012.5	02	4,8	3	9	2	-	-
34	0600	9/28	07°58'N	155°18'W	81.8	040	12	80.5	75.0	1013.5	01	8	2	9	2	-	-
35	0835	9/28	07°50'N	155°16'W	81.8	060	13	78.7	73.3	1013.6	01	8	2	9	2	-	-
--	0915	9/28	07°48'N	155°16'W	-	-	-	-	-	-	-	-	-	-	-	34.36	0.29
36	1040	9/28	07°40'N	155°13'W	81.2	180	08	-	-	1012.5	81	7	8	7	2	-	-
37	1205	9/28	07°33'N	155°10'W	81.7	094	10	79.1	75.3	1011.6	15	4,9	3	9	2	-	-
38	1405	9/28	07°19'N	155°06'W	81.2	119	13	80.0	74.6	1011.3	02	X	X	9	2	-	-
39	1605	9/28	07°05'N	155°02'W	82.1	115	15	79.9	74.2	1012.5	02	8,1	3	9	2	-	-
40	1803	9/28	06°52'N	154°57'W	81.2	120	12	80.1	74.7	1013.7	03	8,4	6	9	3	-	-
41	1900	9/28	06°45'N	154°55'W	81.0	130	13	81.0	74.6	1014.4	01	8	2	9	3	34.97	0.36
42	2110	9/28	06°38'N	154°48'W	81.2	100	14	80.9	75.0	1013.4	02	8	4	9	3	-	-
43	0000	9/29	06°17'N	154°50'W	81.4	120	12	79.8	74.8	1011.0	02	8	4	9	3	-	-
44	0205	9/29	06°00'N	154°50'W	80.0	120	12	79.8	74.5	1010.1	03	8	5	9	3	-	-
45	0405	9/29	05°44'N	154°52'W	80.3	120	13	79.0	74.5	1010.8	02	8,4	4	9	3	-	-
46	0610	9/29	05°32'N	154°53'W	80.0	120	15	78.7	74.4	1012.0	02	8	1	9	3	-	-
47	0740	9/29	05°26'N	154°52'W	80.0	130	12	78.8	74.4	1012.6	02	8	2	9	3	35.10	0.48
48	0945	9/29	05°20'N	154°52'W	79.8	120	17	79.0	74.3	1012.0	02	8,6	7	8	3	-	-
49	1205	9/29	05°09'N	154°52'W	80.0	120	15	78.3	74.4	1010.6	02	8	6	9	3	-	-
50	1405	9/29	04°57'N	154°51'W	79.7	135	15	78.2	74.2	1010.2	03	8	7	9	3	-	-
51	1605	9/29	05°04'N	154°42'W	79.3	105	13	78.2	73.8	1011.0	15	8	7	9	3	-	-
52	1800	9/29	05°19'N	154°29'W	79.1	130	18	79.4	74.1	1012.2	01	6	7	8	3	-	-
53	1900	9/29	05°26'N	154°23'W	79.1	130	17	79.8	74.7	1012.7	03	6,8	8	8	3	35.12	0.54
54	2200	9/29	05°31'N	154°13'W	79.4	130	14	80.3	75.1	1011.2	02	8,6	7	8	3	-	-
55	0005	9/30	05°44'N	154°01'W	79.6	137	19	79.8	75.1	1009.7	02	6	8	8	3	-	-
56	0200	9/30	05°57'N	153°49'W	79.9	147	20	79.8	74.9	1008.8	02	6	8	8	3	-	-
57	0400	9/30	06°10'N	153°38'W	79.6	135	18	79.8	75.3	1009.9	02	8,6	8	8	4	-	-

*Plankton station number; see table 3 for additional information.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
58	0610	9/30	06°23'N	153°25'W	81.0	140	13	80.0	76.2	1011.5	02	6	8	8	3	-	-
59	0750	9/30	06°30'N	153°19'W	80.8	160	15	79.0	75.6	1011.9	02	6	8	8	3	34.94	0.41
60	0940	9/30	06°27'N	153°12'W	81.0	150	17	80.0	75.7	1011.1	02	6	8	8	3	-	-
61	1200	9/30	06°41'N	152°58'W	81.3	148	17	79.2	76.0	1009.5	01	8	3	9	3	-	-
62	1400	9/30	06°55'N	152°43'W	81.4	160	13	78.8	76.1	1009.0	02	6,8	4	9	3	-	-
63	1600	9/30	07°09'N	152°29'W	81.3	160	13	79.8	76.2	1009.6	15	6,8	4	9	3	-	-
64	1800	9/30	07°23'N	152°15'W	81.6	140	18	81.1	76.1	1011.8	02	6,8	7	8	3	-	-
65	2015	9/30	07°30'N	152°03'W	81.5	140	12	82.1	74.5	1012.1	02	6,8	7	8	4	34.79	0.33
66	2210	9/30	07°29'N	151°57'W	81.8	120	10	83.0	75.4	1010.5	02	6,8	7	9	3	-	-
67	0005	10/1	07°40'N	151°44'W	81.7	180	08	82.2	76.2	1009.6	65	6,8	8	8	3	-	-
68	0200	10/1	07°55'N	151°30'W	81.0	145	07	74.2	73.8	1009.7	63	6	8	5	3	-	-
69	0400	10/1	08°06'N	151°16'W	80.9	090	04	74.9	72.9	1011.3	61	5	8	6	3	-	-
70	0600	10/1	08°19'N	151°01'W	80.7	080	26	75.0	72.8	1013.0	60	7	8	5	3	-	-
71	0730	10/1	08°25'N	150°54'W	80.8	100	18	-	-	1013.3	63	7	8	5	4	34.22	0.40
72	0940	10/1	08°27'N	150°46'W	80.7	130	23	78.0	74.5	1011.0	01	0,8	7	7	4	-	-
73	1200	10/1	08°38'N	150°32'W	80.9	120	17	77.4	74.8	1009.8	02	4,6	6	8	4	-	-
74	1400	10/1	08°48'N	150°19'W	81.0	120	17	78.0	74.9	1010.2	02	6,8	7	9	4	-	-
75	1600	10/1	08°59'N	150°06'W	80.6	153	20	78.2	74.9	1010.5	02	6,8	7	9	4	-	-
76	1800	10/1	09°08'N	149°54'W	80.5	150	11	79.3	76.1	1012.6	02	4,6,8	6	9	3	-	-
(16)*	1910	10/1	09°13'N	149°48'W	-	-	-	-	-	-	-	-	-	-	-	33.78	0.31
77	2105	10/1	09°16'N	149°41'W	80.9	130	12	80.0	75.6	1012.1	01	8	2	9	3	-	-
78	0000	10/2	09°37'N	149°22'W	81.4	090	10	80.9	75.7	1010.1	02	4,8	4	9	3	-	-
79	0205	10/2	09°50'N	149°10'W	81.1	060	15	80.5	75.6	1009.6	02	4,8	5	9	3	-	-
80	0400	10/2	10°03'N	148°58'W	80.6	050	12	80.6	76.9	1010.7	02	4,8	4	9	3	-	-
81	0600	10/2	10°17'N	148°49'W	80.4	060	16	80.3	76.0	1012.1	02	8,4	2	8	3	-	-
82	0750	10/2	10°28'N	148°44'W	80.4	060	16	80.2	76.2	1013.1	02	4,8	2	9	2	33.86	0.25
83	0950	10/2	10°36'N	148°41'W	80.1	052	15	80.0	75.8	1012.3	02	8	3	9	3	-	-
84	1205	10/2	10°50'N	148°33'W	79.5	045	18	78.9	76.1	1011.1	16	6,8	4	8	3	-	-
85	1400	10/2	11°04'N	148°27'W	79.1	055	16	79.2	75.8	1010.9	15	6,8	7	8	3	-	-
86	1600	10/2	11°16'N	148°21'W	79.1	058	16	78.0	75.3	1013.7	16	6,8	8	9	3	-	-

*Plankton station number; see table 3 for additional information.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
87	1805	10/2	11°30'N	148°15'W	79.0	060	18	78.3	76.4	1012.7	25	6,8	7	8	3	34.11	0.30
88	2025	10/2	11°37'N	148°10'W	79.0	060	18	80.0	76.0	1013.0	02	6,8	7	8	3	-	-
89	2205	10/2	11°38'N	148°04'W	79.0	060	16	79.6	76.0	1011.9	01	4,8	5	9	3	-	-
90	0000	10/3	11°28'N	147°52'W	79.6	050	15	79.1	76.2	1010.9	16	6	7	8	3	-	-
91	0200	10/3	11°19'N	147°40'W	79.5	050	17	76.1	75.6	1010.3	80	6	6	9	4	-	-
92	0400	10/3	11°10'N	147°28'W	79.5	090	15	78.6	75.0	1011.5	01	5,6	7	8	4	-	-
93	0600	10/3	11°02'N	147°18'W	79.6	070	18	79.6	76.8	1012.8	01	8	2	8	3	-	-
94	0730	10/3	10°55'N	147°10'W	79.9	070	14	79.0	76.2	1013.4	50	6,8	6	8	3	33.95	0.26
95	0920	10/3	10°59'N	147°04'W	79.7	050	18	80.0	76.1	1012.8	02	6,8	6	8	3	-	-
96	1200	10/3	10°48'N	146°50'W	80.0	070	18	79.8	75.2	1011.2	02	8	3	9	3	-	-
97	1400	10/3	10°39'N	146°38'W	79.9	070	18	79.8	75.2	1010.7	02	8	4	9	4	-	-
98	1600	10/3	10°30'N	146°27'W	80.4	054	20	79.4	75.4	1011.2	02	8	4	9	3-4	-	-
99	1805	10/3	10°22'N	146°15'W	80.3	060	22	78.3	76.0	1012.4	03	6,8	6	8	4	-	-
100	1900	10/3	10°16'N	146°08'W	80.5	070	19	80.4	74.4	1012.6	01	8	2	9	4	34.04	0.35
101	2200	10/3	10°15'N	145°57'W	80.7	070	16	80.0	75.1	1010.8	02	8	3	9	4	-	-
102	0000	10/4	10°08'N	145°43'W	80.9	085	15	80.1	75.2	1009.5	02	8	4	9	3-4	-	-
103	0200	10/4	10°00'N	145°29'W	80.7	065	16	79.9	75.9	1009.1	02	8	5	9	3-4	-	-
104	0400	10/4	09°52'N	145°15'W	80.7	065	19	79.6	76.2	1010.1	02	8	6	9	3-4	-	-
105	0600	10/4	09°44'N	145°03'W	80.7	060	15	80.0	75.7	1011.3	02	8	2	9	3	-	-
106	0725	10/4	09°40'N	144°54'W	80.7	060	16	79.4	75.2	1012.1	02	8	2	9	3	34.09	0.29
107	0920	10/4	09°43'N	144°50'W	80.7	060	16	79.1	76.0	1011.3	02	8	1	9	3	-	-
108	1200	10/4	09°33'N	144°37'W	80.5	058	20	78.9	76.2	1009.5	02	6	7	8	3	-	-
109	1400	10/4	09°24'N	144°26'W	80.6	047	24	78.8	76.2	1009.3	01	8	5	9	4	-	-
110	1600	10/4	09°15'N	144°14'W	80.6	045	20	79.6	75.8	1009.6	02	5,8	6	9	4	-	-
111	1800	10/4	09°07'N	144°02'W	80.6	080	16	79.6	77.0	1011.3	02	6,8	7	9	4	-	-
112	1900	10/4	09°02'N	143°57'W	80.7	070	15	80.3	76.0	1011.7	60	4,6,8	7	8	3	34.00	0.29
113	2200	10/4	09°04'N	143°49'W	81.0	040	14	80.0	77.0	1010.2	02	1,4,6,8	6	9	3	-	-
114	0000	10/5	08°57'N	143°33'W	80.9	130	09	79.0	75.9	1009.3	02	6,8	7	9	3	-	-
115	0200	10/5	08°51'N	143°16'W	81.0	144	05	78.2	74.3	1009.5	14	6,8	7	9	3	-	-
116	0400	10/5	08°45'N	142°59'W	80.3	185	13	74.8	74.5	1010.7	63	0	8	3	3	-	-

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
117	0600	10/5	08°38'N	142°43'W	80.4	160	12	81.0	74.8	1011.8	20	-	9	4	3	-	-
118	0735	10/5	08°34'N	142°35'W	80.7	160	12	79.3	75.1	1012.2	50	6,8	6	6	2	33.78	0.43
119	0935	10/5	08°32'N	142°29'W	80.6	160	18	79.0	74.3	1010.6	03	6	8	6	2	-	-
120	1200	10/5	08°24'N	142°08'W	80.4	172	12	77.5	74.0	1009.4	02	6,5	7	9	3	-	-
121	1400	10/5	08°18'N	141°52'W	80.6	166	18	78.2	73.6	1009.0	02	5,6	7	9	3	-	-
122	1500	10/5	08°14'N	141°44'W	80.8	173	19	79.2	75.2	1010.1	02	5,6	7	8	3	-	-
(28)*	1805	10/5	08°00'N	141°24'W	-	-	-	-	-	-	-	-	-	-	-	34.36	0.42
123	1950	10/5	08°04'N	141°18'W	81.1	150	19	81.4	75.7	1011.4	02	6,8	7	8	3	-	-
124	2300	10/5	08°12'N	140°54'W	81.0	170	18	80.2	75.6	1009.3	02	6,8	7	9	3	-	-
125	0100	10/6	08°24'N	140°39'W	81.0	164	16	80.2	76.0	1009.2	02	6,8	7	9	3	-	-
126	0300	10/6	08°36'N	140°25'W	81.0	165	17	80.6	75.5	1011.6	02	6,8	7	9	3	-	-
127	0500	10/6	08°48'N	140°10'W	80.8	170	12	-	-	1011.2	61	X	9	8	3	-	-
128	0625	10/6	08°54'N	140°02'W	80.9	170	19	80.3	76.2	1011.6	21	6	8	7	3	34.13	0.47
129	0825	10/6	08°47'N	140°00'W	81.0	170	18	80.4	76.0	1011.6	02	6	7	8	3	-	-
130	1100	10/6	09°01'N	139°42'W	80.0	155	07	78.5	76.1	1010.6	63	6,0	7	8	3	-	-
131	1300	10/6	09°13'N	139°28'W	79.9	190	06	77.8	75.1	1010.3	02	6	7	8	3	-	-
132	1500	10/6	09°24'N	139°14'W	80.1	156	11	77.0	75.1	1011.3	02	6,5	7	8	3	-	-
133	1700	10/6	09°36'N	139°00'W	80.0	180	13	78.3	76.0	1012.6	15	4,6	7	8	3	-	-
134	1810	10/6	09°40'N	138°55'W	80.2	220	08	80.7	76.4	1013.0	02	1,4,6,8	7	8	3	33.95	0.40
135	2030	10/6	09°41'N	138°44'W	79.9	130	14	-	-	1012.8	63	7	8	5	3	-	-
136	2300	10/6	09°53'N	138°36'W	79.4	316	06	75.1	74.5	1011.9	14	6	8	8	3	-	-
137	0100	10/7	10°04'N	138°20'W	78.8	068	11	75.5	74.8	1011.7	62	7	8	6	3	-	-
138	0300	10/7	10°14'N	138°05'W	79.3	075	11	77.9	74.9	1012.4	01	4,8	8	9	3	-	-
139	0500	10/7	10°24'N	137°50'W	79.0	100	15	77.9	75.0	1013.7	02	6,8	8	8	3	-	-
140	0630	10/7	10°29'N	137°43'W	79.0	100	11	77.9	75.0	1015.0	02	6,8	8	8	3	33.53	0.50
141	0825	10/7	10°33'N	137°37'W	79.1	080	10	79.3	76.4	1014.2	01	6,8	6	8	3	-	-
142	1100	10/7	10°42'N	137°23'W	79.2	060	17	79.2	74.8	1012.9	02	2,5	5	9	3	-	-
143	1300	10/7	10°52'N	137°08'W	79.3	073	16	79.3	74.8	1011.2	02	4	6	9	3	-	-
144	1500	10/7	11°03'N	136°53'W	79.0	085	18	78.9	74.6	1012.9	02	1,4,8	4	9	3	-	-
145	1700	10/7	11°14'N	136°41'W	78.8	090	14	79.0	75.0	1014.2	02	1,8	3	8	3	-	-

*Plankton station number; see table 3 for additional information.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
146	1815	10/7	11°16'N	136°39'W	78.8	080	17	79.2	75.0	1014.4	02	1,8	3	8	3	33.84	0.46
147	1955	10/7	11°17'N	136°37'W	79.1	070	16	79.1	75.3	1014.2	01	8	2	9	3	-	-
148	2100	10/7	11°14'N	136°30'W	79.0	080	16	79.1	75.0	1013.5	02	8	2	9	3	-	-
149	2300	10/7	11°08'N	136°17'W	79.2	075	18	79.2	75.0	1012.1	02	8	2	9	3	-	-
150	0100	10/8	11°03'N	136°05'W	79.2	075	16	78.9	75.2	1011.4	02	8	2	9	3	-	-
151	0300	10/8	10°57'N	135°52'W	79.4	079	17	78.9	74.7	1012.5	02	8	3	9	3	-	-
152	0500	10/8	10°50'N	135°40'W	79.3	080	17	79.0	75.3	1013.7	02	8	2	9	3	-	-
153	0620	10/8	10°45'N	135°36'W	79.5	070	16	79.0	74.8	1014.4	02	8	2	9	3	33.69	0.42
154	0820	10/8	10°44'N	135°30'W	79.5	070	14	79.0	74.5	1013.6	02	8	2	9	3	-	-
155	1100	10/8	10°36'N	135°07'W	79.7	060	15	78.9	73.8	1012.1	02	8	2	9	3	-	-
156	1300	10/8	10°28'N	134°48'W	79.8	060	15	79.0	73.8	1011.9	02	8	2	9	3	-	-
157	1500	10/8	10°20'N	134°32'W	79.8	068	17	79.1	73.8	1012.3	02	4,8	2	9	3	-	-
158	1700	10/8	10°12'N	134°15'W	80.2	070	19	80.0	74.7	1013.5	02	8	2	9	3	-	-
159	1800	10/8	10°10'N	134°12'W	80.4	060	15	80.1	74.4	1013.9	02	8	2	9	3	33.89	0.48
160	2010	10/8	10°12'N	134°04'W	80.5	070	20	80.1	74.8	1012.9	02	8	2	9	3	-	-
161	2100	10/8	10°09'N	133°59'W	80.5	060	18	80.0	75.0	1012.0	02	4,8	2	9	3	-	-
162	2300	10/8	10°02'N	133°44'W	80.8	067	20	80.1	74.2	1011.0	02	4,8	3	9	3	-	-
163	0100	10/9	09°55'N	133°29'W	80.4	073	17	80.3	74.8	1010.9	03	5,6,8	7	9	3	-	-
164	0300	10/9	09°48'N	133°14'W	80.4	135	09	78.5	75.5	1011.9	15	5,6,8	7	9	3	-	-
165	0500	10/9	09°41'N	132°58'W	80.3	070	16	-	-	1013.2	50	6,8	6	8	3	-	-
166	0615	10/9	09°38'N	132°53'W	80.0	070	16	80.0	75.3	1013.5	01	6,8	4	8	3	33.93	0.42
167	0800	10/9	09°36'N	132°48'W	80.1	056	18	80.0	75.6	1013.7	02	6,8	4	8	3	-	-
168	0900	10/9	09°32'N	132°40'W	80.1	090	22	-	-	1012.4	62	6	7	8	3	-	-
169	1100	10/9	09°25'N	132°25'W	80.0	132	12	77.8	75.2	1011.4	01	5	6	9	3	-	-
170	1300	10/9	09°18'N	132°09'W	80.1	125	10	77.1	74.8	1011.0	02	6,8	6	9	3	-	-
171	1500	10/9	09°11'N	131°53'W	80.7	123	13	77.5	74.2	1011.9	14	4,6,8	7	9	3	-	-
172	1700	10/9	09°03'N	131°38'W	80.4	130	18	-	-	1013.5	63	7	8	7	3	-	-
173	1805	10/9	09°01'N	131°33'W	80.7	110	11	78.1	75.1	1013.4	21	4,6,8	7	8	3	34.14	0.29
174	2030	10/9	08°59'N	131°25'W	80.7	130	13	78.7	74.9	1011.5	01	4,6,8	6	9	3	-	-
175	2300	10/9	09°07'N	131°02'W	80.9	140	11	80.9	75.2	1010.4	14	4,6,8	7	9	2	-	-

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
176	0100	10/10	09°15'N	130°43'W	80.2	105	07	78.0	74.9	1010.9	01	4,6,8	6	9	2	-	-
177	0300	10/10	09°20'N	130°25'W	80.7	170	10	79.8	74.9	1011.8	02	6,8	6	9	2	-	-
178	0500	10/10	09°27'N	130°06'W	80.5	160	11	80.0	75.1	1013.2	02	6,8	7	8	3	-	-
179	0630	10/10	09°31'N	129°54'W	80.4	190	10	79.7	75.4	1013.5	02	6,8	7	8	2	-	-
180	0830	10/10	09°34'N	129°46'W	80.5	140	08	79.6	74.8	1012.9	02	6,8	7	8	2	-	-
(42)*	0950	10/10	09°33'N	129°47'W	-	-	-	-	-	-	-	-	-	-	-	33.69	0.43
181	1100	10/10	09°41'N	129°25'W	80.2	170	05	80.1	74.8	1011.6	01	6,8	5	9	2	-	-
182	1300	10/10	09°47'N	129°06'W	80.2	180	05	79.1	74.0	1011.6	02	8	3	9	2	-	-
183	1500	10/10	09°52'N	128°48'W	79.9	294	03	79.8	74.6	1012.9	02	4,8	3	9	2	-	-
184	1700	10/10	09°59'N	128°30'W	80.5	310	08	79.8	75.1	1013.8	02	6,8	7	9	2	-	-
185	1800	10/10	10°02'N	128°22'W	80.0	010	14	-	-	1014.0	61	0	8	8	2	-	0.38
186	2030	10/10	10°10'N	128°18'W	79.7	020	13	-	-	1012.6	65	7	8	5	2	-	-
187	2200	10/10	10°14'N	128°06'W	80.0	035	13	78.6	74.5	1011.4	63	0,5	8	6	3	-	-
188	0000	10/11	10°19'N	127°52'W	80.1	038	18	79.9	75.1	1010.4	21	5,6	8	8	3	-	-
189	0200	10/11	10°24'N	127°38'W	79.6	038	18	79.9	74.9	1011.7	01	4,8	7	9	3	-	-
190	0410	10/11	10°29'N	127°23'W	79.5	040	16	79.6	75.0	1013.0	02	4,8	7	9	3	-	-
191	0530	10/11	10°30'N	127°16'W	79.3	020	16	79.9	75.0	1013.5	02	X	7	9	3	33.33	0.43
192	0730	10/11	10°32'N	127°12'W	79.6	050	16	79.7	75.1	1013.1	02	X	6	9	3	-	-
193	1000	10/11	10°37'N	126°54'W	79.8	065	16	79.8	74.8	1012.1	02	X	X	9	3	-	-
194	1200	10/11	10°42'N	126°43'W	79.8	037	16	79.6	73.9	1011.4	02	X	X	9	3	-	-
195	1400	10/11	10°46'N	126°27'W	79.7	038	18	79.5	74.7	1011.7	02	4,8	4	9	3	-	-
196	1600	10/11	10°52'N	126°17'W	79.8	050	15	79.7	74.0	1013.4	02	1,4,8	4	9	3	-	-
197	1715	10/11	10°55'N	126°10'W	80.0	050	15	80.0	73.2	1014.4	02	1,4,8	4	9	3	33.49	0.41
198	1930	10/11	10°59'N	126°05'W	80.4	040	19	80.0	74.7	1013.6	02	1,4,8	3	9	3	-	-
199	2200	10/11	11°08'N	125°48'W	80.0	048	17	80.1	74.0	1012.0	02	1,8	4	9	3	-	-
200	0000	10/12	11°16'N	125°34'W	80.0	043	15	79.9	73.0	1011.8	02	4,8	4	9	3	-	-
201	0200	10/12	11°24'N	125°21'W	80.0	050	16	79.9	73.0	1012.9	02	4,8	5	9	3	-	-
202	0400	10/12	11°32'N	125°07'W	79.9	040	14	79.3	72.0	1014.7	01	4,8	3	9	3	-	-
203	0515	10/12	11°36'N	125°01'W	79.8	050	14	79.0	72.0	1015.0	02	4,8	3	9	3	33.87	-
204	0745	10/12	11°39'N	124°52'W	79.8	040	13	79.1	71.9	1014.4	03	4,8	6	9	3	-	-

*Plankton station number; see table 3 for additional information.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
205	1000	10/12	11°47'N	124°37'W	79.5	025	14	78.9	71.8	1013.0	02	4,8	4	9	3	-	-
206	1200	10/12	11°54'N	124°22'W	79.4	025	16	78.9	71.2	1012.9	02	8	3	9	3	-	-
207	1400	10/12	12°02'N	124°08'W	79.4	018	13	78.2	71.9	1013.2	02	1,4,8	3	9	3	-	-
208	1600	10/12	12°08'N	123°54'W	79.6	030	15	78.7	70.9	1014.6	02	1,4,8	2	9	3	-	-
209	1700	10/12	12°11'N	123°48'W	79.7	030	16	78.9	70.3	1015.3	03	1,4,8	3	9	2	33.62	-
210	1930	10/12	12°10'N	123°37'W	79.6	030	16	78.3	72.2	1014.2	03	1,4,8	5	9	2	-	-
211	2200	10/12	11°56'N	123°18'W	79.9	020	18	78.9	71.8	1011.8	01	1,8	4	9	2	-	-
212	0000	10/13	11°45'N	123°03'W	80.0	024	20	78.7	70.8	1011.4	02	1,8	3	9	2	-	-
213	0200	10/13	11°34'N	122°48'W	80.1	025	18	78.6	72.0	1012.6	02	1,8	4	9	3	-	-
214	0400	10/13	11°23'N	122°32'W	79.8	040	18	78.3	71.9	1013.8	01	1,8	2	9	3	-	-
215	0510	10/13	11°20'N	122°28'W	79.3	020	16	78.4	71.8	1014.8	02	8	2	9	3	33.87	0.44
216	0730	10/13	11°22'N	122°22'W	79.8	030	13	78.1	71.4	1014.3	02	8	2	9	3	-	-
217	1000	10/13	11°06'N	122°05'W	79.9	015	12	78.2	72.0	1014.9	02	X	X	X	2	-	-
218	1200	10/13	10°52'N	121°50'W	79.6	015	15	78.3	72.3	1011.6	02	X	X	9	2	-	-
219	1400	10/13	10°40'N	121°36'W	79.6	010	15	78.5	72.9	1012.1	02	4,8	6	9	3	-	-
220	1600	10/13	10°26'N	121°21'W	79.7	040	15	79.3	73.8	1013.7	03	6,8	7	9	3	-	-
221	1700	10/13	10°20'N	121°14'W	80.0	020	14	79.9	73.0	1014.0	02	6,8	7	8	3	33.62	0.47
222	1930	10/13	10°21'N	121°07'W	80.2	020	14	80.3	74.6	1012.7	02	6,8	7	9	3	-	-
223	2200	10/13	10°06'N	120°48'W	80.4	010	16	79.8	74.0	1010.9	02	6,8	7	9	3	-	-
224	0000	10/14	09°54'N	120°34'W	80.4	000	17	79.8	74.5	1010.6	02	6	8	9	3	-	-
225	0200	10/14	09°42'N	120°19'W	80.0	015	17	79.2	74.8	1011.8	14	1,6	7	9	3	-	-
226	0400	10/14	09°30'N	120°04'W	79.9	030	12	79.8	74.5	1013.6	01	0,8	6	9	3	-	-
227	0510	10/14	09°26'N	119°58'W	79.4	000	13	78.9	74.8	1013.7	02	6,8	6	9	3	31.49	0.39
228	0730	10/14	09°30'N	119°56'W	79.7	030	12	79.4	74.2	1013.2	01	6,8	5	9	3	-	-
229	1000	10/14	09°14'N	119°35'W	79.2	008	13	79.2	74.5	1011.5	02	X	X	9	3	-	-
230	1200	10/14	09°03'N	119°20'W	79.4	000	15	79.5	74.1	1010.8	02	X	4	9	3	-	-
231	1355	10/14	08°52'N	119°06'W	79.2	000	00	77.0	74.2	1011.8	14	6,8	6	9	2	-	-
232	1600	10/14	08°41'N	118°52'W	80.0	200	02	78.2	74.2	1013.3	03	4,6,8	7	9	2	-	-
233	1710	10/14	08°38'N	118°53'W	80.1	-	00	81.0	75.9	1013.9	01	4,6,8	6	9	2	33.95	0.39
234	1930	10/14	08°34'N	118°54'W	80.0	330	13	80.0	74.3	1012.6	02	4,6,8	7	9	2	-	-

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
235	2200	10/14	08°45'N	118°32'W	79.9	350	15	79.2	74.4	1010.6	14	4,6,8	7	9	2	-	-
236	0000	10/15	08°53'N	118°14'W	79.9	280	15	78.2	75.2	1009.9	62	4,6,8	7	9	2	-	-
237	0200	10/15	09°01'N	117°55'W	80.0	265	07	79.0	74.8	1010.9	62	4,6,8	7	9	2	-	-
238	0400	10/15	09°10'N	117°36'W	80.0	020	04	79.0	74.5	1012.5	02	6,8	7	9	2	-	-
239	0515	10/15	09°14'N	117°28'W	80.0	010	08	79.9	74.0	1012.8	02	6,8	7	9	2	33.64	0.35
240	0730	10/15	09°18'N	117°18'W	79.9	340	10	79.9	74.0	1012.2	01	6,8	6	9	2	-	-
241	1000	10/15	09°28'N	116°57'W	79.9	330	08	79.1	73.6	1010.9	02	X	5	9	2	-	-
242	1200	10/15	09°36'N	116°39'W	80.0	330	07	79.1	73.3	1010.6	02	X	4	9	2	-	-
243	1400	10/15	09°44'N	116°21'W	80.2	332	08	78.0	74.0	1011.6	02	1,8	4	9	2	-	-
244	1600	10/15	09°52'N	116°03'W	80.5	330	10	80.0	73.0	1012.9	01	1,4,8	2	9	3	-	-
245	1700	10/15	09°56'N	115°55'W	80.6	330	15	80.0	73.0	1013.1	02	1,4,8	2	9	3	33.57	0.48
246	1930	10/15	10°03'N	115°55'W	81.1	310	09	80.4	74.0	1011.7	02	4,8	2	9	2	-	-
247	2200	10/15	10°14'N	115°33'W	81.4	318	10	81.1	74.1	1010.0	02	4,8	4	9	2	-	-
248	0015	10/16	10°23'N	115°12'W	80.9	315	09	80.1	73.1	1010.3	03	1,5,8	7	9	2	-	-
249	0200	10/16	10°30'N	114°58'W	80.2	333	14	80.1	73.1	1011.2	02	5,8	7	9	2	-	-
250	0400	10/16	10°38'N	114°40'W	80.5	310	12	80.1	72.7	1012.3	02	5,8	7	9	2	-	-
251	0520	10/16	10°40'N	114°34'W	80.6	330	11	80.1	72.5	1012.4	02	5,8	7	9	2	33.62	0.50
252	0730	10/16	10°46'N	114°33'W	80.5	330	14	80.0	72.3	1011.7	01	X	5	9	2	-	-
253	1005	10/16	10°56'N	114°13'W	80.7	340	08	79.8	72.5	1010.9	02	X	4	9	2	-	-
254	1200	10/16	11°05'N	113°57'W	80.5	330	13	79.7	73.4	1010.8	02	X	X	9	2	-	-
255	1355	10/16	11°14'N	113°41'W	80.2	320	11	79.7	72.6	1012.0	02	1,4,8	4	9	2	-	-
256	1600	10/16	11°27'N	113°28'W	80.6	340	11	80.0	72.0	1013.5	02	1,4,8	4	9	2	-	-
257	1705	10/16	11°30'N	113°30'W	80.8	310	11	80.2	71.6	1013.5	02	1,4,8	4	9	2	33.64	0.33
258	1930	10/16	11°37'N	113°29'W	81.2	290	08	80.5	72.1	1011.9	01	1,4,8	3	9	2	-	-
259	2200	10/16	11°50'N	113°08'W	81.5	290	08	81.1	72.5	1010.6	02	1,8	4	9	2	-	-
260	0000	10/17	12°02'N	112°54'W	81.2	270	06	81.0	72.1	1010.6	02	1,8	3	9	2	-	-
261	0200	10/17	12°15'N	112°38'W	81.4	315	03	79.9	71.9	1011.6	02	1,8	3	9	2	-	-
262	0415	10/17	12°22'N	112°27'W	81.0	-	00	80.4	71.6	1012.7	03	1,8	5	9	2	34.05	0.41
263	0630	10/17	12°25'N	112°23'W	80.7	-	00	79.4	72.0	1012.6	01	8	2	9	2	-	-
264	1100	10/17	12°50'N	111°50'W	81.0	-	00	79.0	72.0	1011.4	02	X	3	9	2	-	-

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
265	1600	10/17	13°19'N	111°13'W	81.9	320	02	79.2	72.4	1013.3	02	8	2	9	2	-	-
266	2003	10/17	13°42'N	110°44'W	81.8	010	09	80.2	73.5	1011.6	02	8	5	9	2	-	-
267	0000	10/18	14°04'N	110°13'W	80.5	350	09	78.0	71.0	1011.1	03	6,8	7	9	2	-	-
268	0400	10/18	14°26'N	109°43'W	80.0	306	07	78.6	70.2	1013.4	01	6,8	4	9	2	-	-
269	0800	10/18	14°48'N	109°13'W	79.4	320	11	77.4	71.1	1012.8	01	X	2	9	2	-	-
270	1200	10/18	15°10'N	108°44'W	79.2	300	10	78.0	72.4	1012.2	02	8	1	9	2	-	-
271	1600	10/18	15°30'N	108°18'W	79.3	340	10	78.2	72.6	1014.3	02	8	1	9	2	-	-
272	2000	10/18	15°52'N	107°51'W	78.6	335	10	78.2	72.2	1013.4	02	8	2	9	2	-	-
273	0000	10/19	16°17'N	107°24'W	76.6	310	07	78.1	73.0	1012.8	02	8	1	9	2	-	-
274	0400	10/19	16°43'N	106°53'W	76.3	320	05	76.5	73.7	1014.8	02	8	1	9	2	-	-
275	0800	10/19	17°11'N	106°23'W	76.2	270	06	76.2	73.4	1013.9	02	8	1	9	2	-	-
276	1200	10/19	17°38'N	105°52'W	77.8	305	14	76.5	73.5	1013.2	02	8	1	9	2	-	-
277	1600	10/19	18°03'N	105°22'W	79.5	355	05	77.7	73.4	1014.6	02	8	2	9	1	-	-
278	2000	10/19	18°28'N	104°52'W	85.0	020	03	81.8	74.3	1012.6	02	8	1	8	1	-	-
279	2000	10/24	18°44'N	104°29'W	82.5	290	10	81.9	77.0	1011.4	02	8	1	9	2	-	-
280	0000	10/25	18°08'N	104°42'W	81.1	295	16	80.2	77.4	1010.7	02	8	1	9	2	-	-
281	0400	10/25	17°32'N	104°55'W	79.6	310	14	80.9	77.2	1012.7	02	8	1	9	2	-	-
282	0805	10/25	16°56'N	105°08'W	79.5	310	14	79.0	76.1	1012.7	03	8	3	8	2	-	-
283	1200	10/25	16°20'N	105°21'W	79.4	330	13	78.9	75.0	1011.7	02	8,4	3	9	2	-	-
284	1600	10/25	15°43'N	105°34'W	79.1	325	12	79.1	75.3	1013.6	02	8	4	9	2	-	-
285	2000	10/25	15°06'N	105°47'W	79.8	320	10	80.4	75.3	1011.3	02	8	2	9	2	-	-
286	0000	10/26	14°29'N	106°02'W	81.1	320	08	81.0	75.2	1010.6	02	8	2	9	2	-	-
287	0400	10/26	13°52'N	106°15'W	80.7	350	11	79.0	74.1	1012.1	02	8	5	9	2	-	-
288	0800	10/26	13°15'N	106°30'W	81.2	330	07	79.0	73.8	1011.0	02	8	3	9	2	-	-
289	1200	10/26	12°38'N	106°43'W	80.8	355	06	78.9	74.1	1010.4	02	8	4	9	2	-	-
290	1604	10/26	12°01'N	106°58'W	81.2	040	04	82.2	75.7	1012.3	02	8	6	9	1	-	-
291	2000	10/26	11°24'N	107°11'W	82.8	170	04	82.4	75.1	1010.3	01	1,8	3	9	2	-	-
292	0000	10/27	10°48'N	107°24'W	82.5	050	04	82.0	74.7	1009.8	02	8,1	5	9	1	-	-
293	0400	10/27	10°12'N	107°37'W	81.7	040	06	81.1	75.0	1012.1	03	6	7	9	1	-	-
294	0800	10/27	09°36'N	107°50'W	79.8	105	05	73.8	73.5	1012.1	29	X	9	7	1	-	-

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
295	1200	10/27	09°02'N	108°03'W	79.0	220	13	75.0	74.0	1010.7	62	7	8	5	3	-	-
296	1600	10/27	08°25'N	108°15'W	78.9	210	17	77.1	73.3	1012.9	01	4,8	6	8	3	-	-
297	2000	10/27	07°50'N	108°27'W	78.8	200	16	78.4	73.3	1013.3	16	6,5	8	6	3	-	-
298	0000	10/28	07°21'N	108°33'W	78.8	210	18	75.8	73.1	1010.5	14	6,5	8	8	3	-	-
299	0245	10/28	07°06'N	108°36'W	78.8	250	16	78.8	73.5	1012.8	02	6,5	8	7	3	33.49	0.34
300	0610	10/28	06°54'N	108°40'W	78.0	190	18	78.1	72.5	1013.3	02	8,5	8	8	3	-	-
301	0800	10/28	06°42'N	108°45'W	78.0	190	15	76.5	72.7	1011.8	02	4,5	7	8	3	-	-
302	1000	10/28	06°29'N	108°50'W	78.6	165	14	77.1	72.8	1010.4	02	8,5	8	8	3	-	-
303	1300	10/28	06°06'N	108°59'W	79.0	200	15	76.9	72.8	1011.9	02	4,8	7	8	3	-	-
304	1400	10/28	06°02'N	109°01'W	78.6	185	16	77.0	71.5	1012.6	02	4,5	7	9	3	-	-
305	1635	10/28	05°52'N	109°04'W	78.8	185	13	77.1	72.5	1014.5	02	4,6,8	7	8	2	33.96	0.22
306	1810	10/28	05°45'N	109°04'W	78.9	180	15	77.5	71.0	1014.1	01	5,8	5	9	2	-	-
307	2102	10/28	05°23'N	109°12'W	78.3	170	12	77.2	70.0	1011.2	03	6,8	8	8	2	-	-
308	2258	10/28	05°06'N	109°17'W	78.2	180	14	76.2	70.8	1010.3	01	4,8	1	9	3	-	-
309	0100	10/29	04°48'N	109°22'W	77.9	160	10	75.7	69.6	1011.1	02	4,8	2	9	3	-	-
310	0300	10/29	04°40'N	109°25'W	78.0	165	12	75.4	69.0	1014.0	02	4,8	2	9	2	34.18	0.25
311	0550	10/29	04°29'N	109°24'W	78.0	140	13	75.2	69.5	1013.7	02	4,8	2	9	2	-	-
312	0800	10/29	04°12'N	109°34'W	77.3	150	12	74.7	68.4	1012.6	02	8,6	2	9	2	-	-
313	1000	10/29	03°55'N	109°46'W	77.4	150	15	74.5	68.0	1011.4	02	8	2	9	2	-	-
314	1200	10/29	03°38'N	109°56'W	77.0	150	14	74.5	68.0	1011.4	03	6,8	6	9	2	-	-
315	1400	10/29	03°21'N	110°07'W	76.0	135	14	75.2	68.9	1012.7	01	4,8	3	9	2	-	-
316	1610	10/29	03°13'N	110°12'W	76.9	140	16	74.9	67.8	1014.0	02	8	3	9	3	-	0.32
317	1900	10/29	03°04'N	110°09'W	77.0	140	14	74.5	66.8	1012.9	02	4,6,8	3	9	3	-	-
318	2100	10/29	02°50'N	110°23'W	76.5	150	18	73.8	68.9	1011.2	03	6,4	8	8	3	-	-
319	2301	10/29	02°35'N	110°35'W	76.5	150	18	72.1	66.1	1010.7	02	6	8	8	3	-	-
320	0100	10/30	02°20'N	110°48'W	76.3	150	18	72.0	66.0	1011.2	02	6	8	8	3	-	-
321	0600	10/30	02°10'N	110°54'W	75.8	140	15	72.0	66.0	1014.7	02	6	7	9	3	34.18	0.35
322	0800	10/30	02°07'N	110°52'W	75.5	140	17	70.9	65.1	1013.4	02	6	8	9	3	-	-
323	1000	10/30	01°49'N	111°03'W	74.7	135	13	71.1	64.9	1012.9	02	6	7	9	3	-	-
324	1155	10/30	01°31'N	111°15'W	74.1	130	17	70.4	65.3	1012.2	02	6	7	9	3	-	-

Note: Numbers underlined indicate BT's used on oceanographic stations, figure 9.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
325	1400	10/30	01°13'N	111°27'W	72.6	140	20	69.9	64.7	1013.8	02	6	7	9	3	-	-
326	1625	10/30	01°03'N	111°32'W	71.9	140	17	69.8	63.2	1015.4	02	6	8	9	3	34.21	0.50
327	1900	10/30	00°59'N	111°32'W	71.6	142	19	70.0	65.6	1014.3	02	6	8	9	3	-	-
328	2100	10/30	00°39'N	111°48'W	69.8	155	18	69.2	65.8	1012.5	02	6	8	9	3	-	-
329	2300	10/30	00°18'N	112°03'W	69.1	130	13	68.8	65.2	1011.2	01	5	1	9	2	-	-
330	0100	10/31	00°02'S	112°18'W	67.9	130	12	67.9	64.2	1011.4	02	0	0	9	2	-	-
331	0255	10/31	00°12'S	112°25'W	67.5	110	11	67.5	64.6	1013.0	02	0	0	9	2	34.66	0.74
332	0630	10/31	00°10'S	112°14'W	67.3	115	13	67.0	64.5	1013.8	02	8	1	9	2	-	-
333	0840	10/31	00°19'S	112°17'W	66.8	103	08	66.9	64.5	1012.8	03	6	8	9	2	-	-
334	1100	10/31	00°40'S	112°27'W	66.3	100	07	66.7	65.0	1012.5	01	8	2	9	2	-	-
335	1300	10/31	00°58'S	112°35'W	66.7	090	08	66.9	65.4	1013.2	03	6	8	8	2	-	-
336	1500	10/31	01°14'S	112°42'W	68.4	090	08	68.0	66.0	1015.0	02	6	8	8	2	-	-
337	1700	10/31	01°23'S	112°46'W	69.3	090	11	70.8	67.0	1015.1	02	4,6	8	9	2	34.93	0.78
338	2005	10/31	01°40'S	112°52'W	70.7	100	11	70.3	66.5	1013.4	02	6	8	8	2	-	-
339	2200	10/31	02°01'S	112°57'W	71.0	100	11	70.2	66.8	1012.1	01	4	4	9	2	-	-
340	0000	11/1	02°22'S	113°02'W	71.0	100	12	70.1	66.8	1012.3	01	4,6,8	2	9	2	-	-
341	0200	11/1	02°43'S	113°06'W	71.6	100	12	70.9	67.1	1013.1	03	6	8	9	2	-	-
342	0400	11/1	02°54'S	113°08'W	70.4	095	15	70.1	67.0	1014.6	02	6	8	9	2	35.07	1.21
343	0900	11/1	03°17'S	112°57'W	69.9	105	16	66.5	66.0	1013.7	60	7	8	7	2	-	-
344	1100	11/1	03°36'S	112°58'W	69.2	100	14	68.4	67.1	1013.4	25	5,6	8	8	2	-	-
345	1302	11/1	03°55'S	112°59'W	69.1	100	15	70.0	65.8	1014.5	01	5,6	6	8	2	-	-
346	1445	11/1	04°14'S	113°00'W	69.5	100	10	70.2	68.2	1016.1	15	6	7	9	2	-	-
347	1735	11/1	04°24'S	113°00'W	69.9	120	16	71.5	66.8	1016.6	02	6	7	9	3	34.99	1.14
348	2040	11/1	04°25'S	112°48'W	70.1	095	09	71.8	68.1	1014.4	02	5,6	7	9	2	-	-
349	2200	11/1	04°38'S	112°55'W	70.8	095	10	71.7	68.2	1015.6	02	6,8	7	9	2	-	-
350	0000	11/2	04°56'S	113°04'W	71.2	110	17	71.4	67.9	1013.6	01	5,6,8	6	9	3	-	-
351	0200	11/2	05°15'S	113°13'W	71.6	110	16	71.7	67.6	1014.3	02	6,8	1	9	3	-	-
352	0415	11/2	05°24'S	113°16'W	71.6	110	16	71.5	67.2	1015.3	02	6,8	1	9	3	35.03	0.94
353	0705	11/2	05°29'S	113°05'W	71.5	120	17	71.4	68.0	1015.3	02	8	7	9	3	-	-
354	0900	11/2	05°42'S	113°15'W	71.5	120	21	71.3	67.1	1014.3	02	4,8	7	9	3	-	-

Note: Numbers underlined indicate BT's used on oceanographic stations, figure 9.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
355	1100	11/2	05°58'S	113°28'W	71.6	105	17	71.4	67.5	1013.6	02	8	4	9	2	-	-
356	1300	11/2	06°13'S	113°39'W	76.7	110	18	71.5	68.0	1014.1	02	4,8	6	9	2	-	-
357	1500	11/2	06°29'S	113°50'W	72.1	110	18	72.9	68.1	1015.6	02	6,8	6	9	3	-	-
358	1705	11/2	06°37'S	113°56'W	72.4	110	18	73.8	68.0	1017.5	02	6,8	5	9	3	35.08	0.86
359	2000	11/2	06°46'S	113°53'W	72.9	120	13	73.8	69.8	1013.3	16	6	8	8	3	-	-
360	2200	11/2	07°01'S	114°09'W	73.3	120	17	72.0	69.3	1013.2	02	4,8	7	9	3	-	-
361	0000	11/3	07°15'S	114°25'W	73.5	110	17	73.4	69.0	1012.7	01	8,4	2	9	3	-	-
362	0200	11/3	07°30'S	114°40'W	73.4	105	16	73.5	69.1	1013.7	02	8,4	2	9	3	-	-
363	0400	11/3	07°37'S	114°48'W	73.4	095	15	73.8	69.0	1015.0	02	X	X	9	3	35.24	0.98
364	0700	11/3	07°47'S	114°57'W	73.4	140	16	72.0	69.5	1015.3	02	4,8	7	8	3	-	-
365	0900	11/3	07°47'S	115°20'W	72.7	130	21	72.7	69.0	1014.3	02	4,8	7	9	3	-	-
366	1100	11/3	07°48'S	115°43'W	72.5	130	13	72.9	69.0	1013.6	01	4,8	4	9	3	-	-
367	1300	11/3	07°48'S	116°06'W	72.5	140	18	72.7	69.0	1014.4	02	4,6	3	9	3	-	-
368	1500	11/3	07°48'S	116°30'W	72.9	140	18	73.9	68.9	1015.6	02	4,8	3	9	3	-	-
369	1655	11/3	07°49'S	116°46'W	73.6	130	20	74.8	67.9	1016.0	01	4	1	9	3-4	-	1.12
370	2001	11/3	07°53'S	116°50'W	74.5	140	15	74.8	67.8	1014.8	02	8	1	9	3-4	-	-
371	2200	11/3	07°55'S	117°11'W	74.6	130	20	75.5	69.3	1013.3	02	8	1	9	3	-	-
372	0000	11/4	07°56'S	117°30'W	74.6	130	18	75.6	68.7	1012.8	02	8	1	9	3	-	-
373	0200	11/4	07°58'S	117°51'W	74.3	130	18	77.9	73.9	1013.6	02	8	1	9	3	-	-
374	0400	11/4	07°59'S	118°10'W	74.2	120	20	73.7	69.0	1014.8	02	8	1	9	3	-	-
375	0605	11/4	07°60'S	118°30'W	74.5	130	19	73.9	69.0	1015.7	02	8	2	9	3	-	-
376	0900	11/4	08°01'S	119°00'W	74.1	120	20	73.6	68.0	1014.5	02	8	3	9	3	-	-
377	1200	11/4	08°02'S	119°30'W	74.1	120	19	73.8	68.0	1014.0	02	8	2	9	3	-	-
378	1500	11/4	07°59'S	119°57'W	74.5	110	20	75.0	66.9	1015.9	02	8	1	9	3	-	-
379	1710	11/4	07°56'S	120°04'W	74.7	110	18	75.2	68.0	1016.1	02	8	1	9	3	35.31	0.87
380	2000	11/4	07°46'S	120°00'W	74.8	100	17	76.3	68.0	1014.5	02	8	1	9	4	-	-
381	2200	11/4	07°28'S	120°02'W	74.7	110	18	75.7	69.0	1012.8	03	8	2	9	4	-	-
382	0000	11/5	07°10'S	120°03'W	74.6	110	18	74.8	68.7	1011.9	02	8	1	9	3	-	-
383	0200	11/5	06°51'S	120°05'W	74.2	110	18	74.3	68.9	1012.6	02	8	2	9	3	-	-
384	0405	11/5	06°43'S	120°06'W	74.4	110	19	74.1	68.9	-	02	8	1	9	3	35.25	0.87

Note: Numbers underlined indicate BT's used on oceanographic stations, figure 9.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
385	0707	11/5	06°47'S	119°54'W	74.5	125	21	73.4	68.5	1013.1	50	8,6	2	8	3	-	-
386	0945	11/5	06°20'S	119°58'W	74.4	110	17	73.2	68.5	1012.8	03	6	7	8	3	-	-
387	1100	11/5	06°06'S	119°59'W	74.1	130	17	74.3	68.8	1012.3	01	6,8	2	9	2	-	-
388	1300	11/5	05°46'S	120°03'W	74.2	140	15	75.0	69.0	1013.1	02	4,6	6	8	2	-	-
389	1500	11/5	05°25'S	120°06'W	74.5	125	16	74.2	69.2	1013.9	03	4,6,8	7	9	3	-	-
390	1705	11/5	05°14'S	120°08'W	74.3	110	20	72.3	69.9	1015.0	62	6	8	7	3	35.30	0.71
391	2002	11/5	05°14'S	119°60'W	74.5	120	16	74.2	69.8	1012.6	01	8	6	8	3	-	-
392	2202	11/5	04°57'S	120°02'W	74.6	105	14	73.8	69.5	1011.0	01	4,8	5	9	3	-	-
393	0000	11/6	04°39'S	120°04'W	74.5	115	18	73.7	69.5	1011.0	02	4,5,8	3	9	3	-	-
394	0200	11/6	04°22'S	120°06'W	74.2	110	17	73.9	69.3	1012.0	02	4,5,8	3	9	3	-	-
395	0400	11/6	04°13'S	120°06'W	74.1	115	19	73.7	68.2	1015.3	02	X	2	9	3	35.46	0.80
396	0710	11/6	04°16'S	119°55'W	74.2	100	17	73.2	69.7	1013.2	02	8	2	8	3	-	-
397	0900	11/6	03°58'S	119°58'W	73.5	110	17	72.4	68.9	1011.8	01	4,6	7	9	3	-	-
398	1100	11/6	03°37'S	120°00'W	73.4	110	16	72.2	68.1	1011.4	01	6,8	4	9	3	-	-
399	1300	11/6	03°17'S	120°03'W	73.1	110	20	72.9	68.1	1012.2	02	6,8	4	9	3	-	-
400	1505	11/6	02°57'S	120°05'W	72.6	105	18	73.0	68.9	1013.4	02	4,8	4	9	3	-	-
401	1705	11/6	02°48'S	120°05'W	72.7	110	15	73.9	68.9	1014.0	01	4,8	1	9	3	35.16	0.68
402	2000	11/6	02°38'S	120°01'W	73.0	095	15	73.7	69.0	1012.2	02	6	6	8	3	-	-
403	2200	11/6	02°19'S	120°02'W	73.0	100	16	73.3	70.0	1010.8	01	4	2	9	2	-	-
404	0000	11/7	02°00'S	120°03'W	72.5	100	14	73.6	69.8	1010.4	02	4,8	1	9	2	-	-
405	0205	11/7	01°41'S	120°04'W	71.9	115	12	74.0	70.0	1011.6	02	1,5,6	1	9	2	-	-
406	0410	11/7	01°32'S	120°05'W	71.1	150	14	71.9	68.4	1012.9	02	X	X	9	2	34.90	0.70
407	0700	11/7	01°38'S	119°54'W	71.0	130	17	71.3	68.4	1012.8	02	X	1	9	2	-	-
408	0900	11/7	01°18'S	119°55'W	70.5	110	10	70.3	68.7	1012.2	02	6	7	9	2	-	-
409	1120	11/7	00°55'S	119°56'W	70.2	120	11	70.2	68.3	1011.3	02	6	8	8	2	-	-
410	1300	11/7	00°40'S	119°57'W	69.8	120	10	70.0	68.5	1011.8	02	6	8	8	2	-	-
411	1500	11/7	00°21'S	119°58'W	69.1	125	12	70.4	68.2	1012.9	01	6	7	9	2	-	-
412	1655	11/7	00°11'S	119°58'W	68.9	130	13	70.9	68.2	1013.6	02	-	0	9	2	34.94	1.34
413	2000	11/7	00°03'S	119°52'W	69.1	120	14	74.5	69.5	1011.9	02	6,8	1	9	2	-	-
414	2200	11/7	00°17'N	119°54'W	69.1	130	12	75.5	69.9	1010.5	03	8	3	9	2	-	-

Note: Numbers underlined indicate BT's used on oceanographic stations, figure 9.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
415	0000	11/8	00°36'N	119°56'W	69.7	130	11	74.1	67.9	1010.3	01	8	1	9	2	-	-
416	0200	11/8	00°56'N	119°59'W	69.1	120	08	70.2	68.0	1011.4	03	4,6	7	8	2	-	-
417	0410	11/8	01°05'N	120°00'W	69.0	110	09	69.8	68.0	1013.3	02	6	7	9	2	34.92	1.06
418	0710	11/8	01°15'N	119°55'W	69.0	100	06	70.3	68.6	1014.0	02	8	2	8	2	-	-
419	0900	11/8	01°34'N	119°54'W	68.8	125	09	69.0	67.9	1012.9	02	6	1	9	2	-	-
420	1100	11/8	01°54'N	119°53'W	68.7	140	07	69.1	67.6	1012.2	02	4	4	9	2	-	-
421	1300	11/8	02°14'N	119°53'W	69.2	130	08	69.3	67.9	1013.0	02	4	1	9	2	-	-
422	1500	11/8	02°34'N	119°58'W	69.6	150	09	70.2	68.3	1013.6	02	4	5	9	2	-	-
423	1705	11/8	02°44'N	120°02'W	69.8	150	11	71.4	68.9	1014.4	02	4,6	6	9	2	34.58	1.05
424	2000	11/8	02°50'N	120°00'W	70.1	150	09	71.9	68.8	1012.9	02	4,6	6	9	2	-	-
425	2200	11/8	03°13'N	120°00'W	71.2	150	10	71.8	68.9	1010.9	02	4,6	5	9	2	-	-
426	0000	11/9	03°36'N	120°00'W	72.1	170	10	73.8	69.8	1010.3	03	4,6	7	9	2	-	-
427	0035	11/9	03°45.8'N	120°02.9'W	76.3	-	-	-	-	-	-	-	-	-	-	-	-
428	0050	11/9	03°46.6'N	120°02.5'W	72.0	160	16	73.4	69.7	1010.4	02	4,6,8	7	9	2	-	-
429	0130	11/9	03°45.9'N	119°58.4'W	73.3	-	-	-	-	-	-	-	-	-	-	-	-
430	0210	11/9	03°46.2'N	119°59.5'W	73.2	170	12	-	-	-	-	-	-	-	-	-	0.77
431	0245	11/9	03°45.2'N	120°01.2'W	74.5	-	-	-	-	-	-	-	-	-	-	-	-
432	0325	11/9	03°44.2'N	120°02.3'W	72.4	150	11	-	-	-	-	-	-	-	-	-	0.80
433	0403	11/9	03°45.2'N	120°03.1'W	75.0	180	14	-	-	-	-	-	-	-	-	-	-
434	0445	11/9	03°44.6'N	120°03.7'W	74.0	-	-	-	-	-	-	-	-	-	-	-	-
435	0455	11/9	03°45.4'N	120°04.4'W	-	-	-	-	-	-	-	-	-	-	-	-	-
436	0507	11/9	03°46.3'N	120°05.1'W	76.2	-	-	-	-	-	-	-	-	-	-	-	-
437	0517	11/9	03°47.0'N	120°05.7'W	76.4	-	-	-	-	-	-	-	-	-	-	-	-
438	0525	11/9	03°47.8'N	120°06.2'W	76.5	-	-	-	-	-	-	-	-	-	-	-	-
439	0534	11/9	03°48.7'N	120°07.0'W	76.5	-	-	-	-	-	-	-	-	-	-	-	-
440	0543	11/9	03°49.5'N	120°07.7'W	76.6	150	12	73.9	69.6	1013.6	01	X	1	9	2	-	-
441	0613	11/9	03°49.0'N	120°07.8'W	76.2	-	-	-	-	-	-	-	-	-	-	34.49	.08 P
442	0625	11/9	03°49.1'N	120°08.9'W	76.2	-	-	-	-	-	-	-	-	-	-	-	-
443	0634	11/9	03°50.0'N	120°09.6'W	76.3	-	-	-	-	-	-	-	-	-	-	-	-
444	0643	11/9	03°51.0'N	120°10.3'W	76.3	-	-	-	-	-	-	-	-	-	-	-	-

Note: Numbers underlined indicate BT's used on oceanographic stations, figure 9.

P - value doubtful.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
445	0652	11/9	03°51.9'N	120°10.9'W	76.4	-	-	-	-	-	-	-	-	-	-	-	-
446	1411	11/9	04°20.3'N	119°55.9'W	73.4	130	14	74.0	70.1	1012.7	02	4,8	7	9	2	-	-
447	1420	11/9	04°21.1'N	119°55.3'W	73.5	-	-	-	-	-	-	-	-	-	-	-	-
448	1434	11/9	04°22.7'N	119°54.5'W	73.5	-	-	-	-	-	-	-	-	-	-	-	-
449	1444	11/9	04°23.7'N	119°53.8'W	76.3	-	-	-	-	-	-	-	-	-	-	-	-
450	1450	11/9	04°24.0'N	119°53.3'W	76.3	-	-	-	-	-	-	-	-	-	-	-	-
451	1500	11/9	04°25.1'N	119°52.6'W	76.2	-	-	-	-	-	-	-	-	-	-	-	-
452	1509	11/9	04°25.8'N	119°52.0'W	76.2	-	-	-	-	-	-	-	-	-	-	-	-
453	1519	11/9	04°26.8'N	119°51.3'W	76.4	-	-	-	-	-	-	-	-	-	-	-	-
454	1530	11/9	04°27.8'N	119°50.6'W	76.4	-	-	-	-	-	-	-	-	-	-	-	-
455	1545	11/9	04°29.5'N	119°49.8'W	76.4	-	-	-	-	-	-	-	-	-	-	-	-
456	1600	11/9	04°31.2'N	119°49.0'W	76.5	160	15	75.5	70.0	1013.7	02	4	7	9	3	-	-
457	1703	11/9	04°32.2'N	119°49.9'W	76.7	150	15	75.9	70.5	1013.9	02	4	7	9	3	34.47	1.02 P
458	1845	11/9	04°29.7'N	119°48.5'W	76.8	170	13	78.8	72.7	1013.2	02	4,8	7	8	3	-	-
459	2015	11/9	04°44'N	119°49'W	76.9	160	10	79.6	72.5	1012.2	02	6,8	7	8	3	-	-
460	2200	11/9	05°02'N	119°50'W	77.0	150	13	77.0	73.7	1010.2	02	6,8	8	8	2	-	-
461	0000	11/10	05°22'N	119°51'W	77.1	150	12	76.4	71.0	1009.5	02	6,4	8	8	2	-	-
462	0200	11/10	05°42'N	119°52'W	78.0	140	15	76.3	71.0	1010.0	02	6,4	8	9	2	-	-
463	0350	11/10	05°52'N	119°53'W	78.0	150	10	76.2	72.2	1011.5	01	X	X	9	2	34.61	0.37
464	0700	11/10	05°45'N	120°07'W	78.3	170	20	75.8	72.8	1011.8	60	6	8	8	3	-	-
465	1000	11/10	05°35'N	120°28'W	77.7	170	19	75.0	71.5	1009.4	02	6	8	8	3	-	-
466	1200	11/10	05°28'N	120°42'W	77.7	170	18	75.1	71.3	1009.4	02	6	8	7	3	-	-
467	1400	11/10	05°21'N	120°57'W	78.0	170	19	75.1	71.2	1010.4	02	6	8	9	3	-	-
468	1605	11/10	05°13'N	121°13'W	77.9	160	20	76.2	71.1	1011.8	02	6	7	9	3	34.85	0.46
469	1930	11/10	04°59'N	121°23'W	78.0	160	21	76.0	70.4	1011.2	02	6,8	7	9	3	-	-
470	2200	11/10	04°44'N	121°43'W	77.8	170	18	75.7	70.0	1009.4	02	4,8	7	9	3	-	-
471	0000	11/11	04°33'N	121°59'W	77.4	170	18	75.2	69.2	1009.1	02	4,8	7	9	3	-	-
472	0200	11/11	04°21'N	122°16'W	76.1	160	16	74.8	69.1	1010.3	02	4,8	8	8	3	-	-
473	0355	11/11	04°10'N	122°33'W	76.2	155	13	74.8	68.9	1012.1	02	X	8	8	3	34.92	0.09 P
474	0700	11/11	04°00'N	122°32'W	75.9	170	16	74.1	68.3	1012.8	02	X	8	8	3	-	-

Note: Numbers underlined indicate BT's used on oceanographic stations, figure 9.

P - value doubtful.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
475	1000	11/11	03°42'N	122°53'W	76.0	160	13	72.1	69.0	1010.5	02	X	8	8	3	-	-
476	1200	11/11	03°30'N	123°09'W	76.3	160	17	73.4	68.8	1009.6	02	X	8	8	3	-	-
477	1400	11/11	03°18'N	123°24'W	76.1	140	19	73.7	68.9	1010.1	01	4,6,8	6	9	3	-	-
478	1605	11/11	03°06'N	123°40'W	75.9	145	19	74.0	68.7	1011.8	03	6	8	9	3	34.79	2.73 P
479	1930	11/11	02°55'N	123°46'W	76.0	145	19	73.9	68.2	1011.2	01	8	-	9	3	-	-
480	2200	11/11	02°39'N	124°10'W	75.8	140	13	73.2	68.0	1009.1	02	8	1	9	2	-	-
481	0000	11/12	02°28'N	124°30'W	73.7	140	12	72.1	67.9	1008.7	02	4,8	1	9	2	-	-
482	0200	11/12	02°17'N	124°51'W	70.6	130	14	70.7	68.0	1009.9	02	8	1	9	2	-	-
483	0405	11/12	02°03'N	125°05'W	70.0	100	10	70.2	67.9	1012.4	02	X	1	9	2	35.01	1.09
484	0717	11/12	02°00'N	124°56'W	69.8	110	09	70.6	68.2	1013.2	02	8	2	9	2	-	-
485	1000	11/12	01°49'N	125°18'W	69.9	110	10	69.3	67.3	1011.0	02	4,8	1	9	2	-	-
486	1200	11/12	01°40'N	125°35'W	68.8	110	12	69.7	67.8	1010.4	03	4,8	3	9	2	-	-
487	1405	11/12	01°32'N	125°52'W	70.2	100	16	70.2	68.1	1013.1	03	4	6	9	2	-	-
488	1600	11/12	01°23'N	126°09'W	70.6	105	13	71.8	68.6	1012.1	02	4	7	9	2	34.97	1.22
489	1930	11/12	01°14'N	126°19'W	71.0	100	14	71.7	68.9	1011.8	01	4,8	2	9	2	-	-
490	2200	11/12	01°00'N	126°37'W	71.6	090	11	72.0	69.3	1010.0	02	4,8	1	9	2	-	-
491	0000	11/13	00°47'N	126°49'W	71.6	080	15	71.9	69.1	1009.0	03	6,8	3	9	2	-	-
492	0200	11/13	00°35'N	127°01'W	70.9	080	13	71.3	68.9	1009.9	02	6,8	4	9	2	-	-
493	0405	11/13	00°23'N	127°14'W	70.9	080	12	71.1	69.2	1011.7	02	X	3	9	2	34.99	1.24
494	0702	11/13	00°21'N	127°05'W	70.7	090	06	71.0	69.5	1012.8	02	8	1	9	2	-	-
495	1000	11/13	00°08'N	127°28'W	70.4	090	07	70.3	69.8	1011.0	02	8	1	9	2	-	-
496	1200	11/13	00°01'S	127°43'W	69.8	240	05	70.5	69.3	1010.3	50	X	7	7	2	-	-
497	1500	11/13	00°14'S	128°05'W	69.2	100	05	70.3	69.1	1012.0	02	6	7	8	1	-	-
498	1705	11/13	00°21'S	128°20'W	68.9	120	08	70.1	69.1	1013.1	02	6	7	8	1	34.94	1.00
499	2005	11/13	00°25'S	128°34'W	69.7	115	07	71.6	69.6	-	02	6	7	8	1	-	-
500	2200	11/13	00°38'S	128°46'W	69.7	090	10	70.7	68.8	1010.7	02	4	7	8	1	-	-
501	0000	11/14	00°52'S	128°59'W	70.0	090	06	71.3	69.1	1010.0	02	4,8	7	9	2	-	-
502	0200	11/14	01°05'S	129°10'W	70.3	120	04	70.7	69.5	1009.9	01	-	0	9	2	-	-
503	0400	11/14	01°20'S	129°22'W	70.0	135	06	70.7	69.8	1013.3	02	-	0	9	2	-	-
504	0610	11/14	01°32'S	129°20'W	70.1	100	05	70.8	69.9	1012.9	02	-	0	9	2	34.90	1.01

P - value doubtful.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
505	0802	11/14	01°36'S	129°17'W	70.1	120	04	71.0	70.0	1012.9	02	-	0	9	2	-	-
506	1000	11/14	01°42'S	129°37'W	70.4	080	06	70.8	69.9	1011.6	02	-	0	9	2	-	-
507	1200	11/14	01°47'S	129°56'W	70.2	080	05	71.1	69.9	1011.5	03	X	3	9	1	-	-
508	1400	11/14	01°53'S	130°16'W	70.0	120	05	70.8	69.7	1012.2	03	5	8	8	1	-	-
509	1600	11/14	01°59'S	130°37'W	70.1	110	08	71.0	69.9	1012.7	02	6	8	8	1	-	-
510	1735	11/14	02°04'S	130°52'W	70.6	115	08	72.1	70.1	1013.1	01	6	1	9	1	34.83	0.91
511	2020	11/14	02°05'S	130°42'W	71.1	135	12	72.2	70.2	1012.1	02	6	1	9	1	-	-
512	2200	11/14	01°56'S	130°55'W	71.6	140	12	74.2	71.1	1010.2	02	8	1	9	1	-	-
513	0000	11/15	01°44'S	131°12'W	71.7	150	11	76.0	71.8	1009.5	02	4,8	1	9	1	-	-
514	0200	11/15	01°31'S	131°28'W	71.9	140	09	74.8	71.0	1010.5	02	4	1	9	1	-	-
515	0400	11/15	01°19'S	131°44'W	71.5	140	09	72.2	70.1	1011.8	02	4	1	9	1	-	-
516	0615	11/15	01°09'S	131°42'W	71.3	120	08	72.0	70.0	1012.9	02	X	1	9	1	34.78	0.98
517	0800	11/15	01°08'S	131°40'W	71.3	110	04	73.3	70.4	1013.5	03	6	7	8	2	-	-
518	1005	11/15	00°52'S	131°58'W	72.2	120	04	72.8	70.0	1011.8	02	X	6	8	2	-	-
519	1200	11/15	00°37'S	132°16'W	72.5	130	06	72.9	70.2	1010.1	02	X	7	7	2	-	-
520	1400	11/15	00°22'S	132°34'W	74.3	130	13	74.0	70.9	1011.5	02	4,6	7	7	2	-	-
521	1600	11/15	00°06'S	132°52'W	74.8	130	16	74.5	70.9	1012.6	02	4,6	7	9	2	-	-
522	1800	11/15	00°10'S	133°10'W	75.2	130	17	76.0	71.7	1013.1	01	4,6	6	9	2	34.78	0.66
523	2000	11/15	00°08'S	133°04'W	75.5	130	18	75.2	71.0	1012.4	03	6	8	9	2	-	-
523A	2215	11/15	00°20'N	133°23'W	76.0	130	17	75.9	71.1	1010.1	02	4,8	6	9	2	-	-
524	0000	11/16	00°28'N	133°40'W	76.1	140	17	78.4	72.7	1009.1	01	4,8	2	9	2	-	-
525	0200	11/16	00°38'N	133°59'W	76.0	140	19	77.4	73.0	1008.9	02	8	2	9	2	-	-
526	0400	11/16	00°46'N	134°16'W	75.6	130	18	75.3	72.0	1010.0	02	X	2	9	2	-	-
527	0610	11/16	00°51'N	134°21'W	75.6	150	19	75.4	71.2	1010.6	02	X	2	9	3	34.87	0.71
528	0800	11/16	00°51'N	134°16'W	75.8	125	18	76.0	71.9	1011.1	02	8	1	9	3	-	-
529	1000	11/16	01°00'N	134°34'W	76.0	130	20	75.2	71.2	1010.0	02	8	1	9	3	-	-
530	1200	11/16	01°09'N	134°52'W	75.0	120	17	75.3	71.7	1009.6	50	X	8	7	3	-	-
531	1400	11/16	01°18'N	135°10'W	74.5	140	15	75.9	72.2	1010.3	02	4,6	8	7	3	34.78	2.07
532	1600	11/16	01°28'N	135°28'W	75.0	135	15	75.5	71.5	1011.1	02	6	7	8	2	-	-
533	1805	11/16	01°37'N	135°46'W	75.1	150	17	75.2	72.0	1011.3	01	4,8	5	9	3	-	-

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, μg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
534	2000	11/16	01°35'N	135°40'W	75.3	135	12	76.2	72.2	1011.0	02	6, 8	5	9	3	-	-
535	2200	11/16	01°54'N	135°58'W	75.5	130	17	81.2	74.6	1008.9	02	4, 6, 8	7	9	3	-	-
536	0000	11/17	02°13'N	136°15'W	75.5	130	16	77.1	72.9	1007.9	02	4, 6, 8	8	8	3	-	-
537	0200	11/17	02°32'N	136°32'W	75.2	150	12	78.2	73.3	1008.8	02	4, 6, 8	8	8	3	-	-
538	0400	11/17	02°51'N	136°48'W	74.1	135	13	76.2	72.3	1010.2	02	X	8	8	3	-	-
539	0610	11/17	03°06'N	136°56'W	74.0	120	12	74.0	71.9	1011.4	60	X	8	8	3	34.83	2.18
540	0800	11/17	03°12'N	136°57'W	74.2	070	06	75.5	72.3	1011.9	60	X	8	8	2	-	-
541	1000	11/17	03°30'N	137°10'W	75.1	140	10	75.0	72.2	1010.5	02	X	8	8	2	-	-
542	1200	11/17	03°48'N	137°26'W	76.2	140	12	75.0	72.4	1009.3	01	X	4	9	2	-	-
543	1400	11/17	04°05'N	137°42'W	75.8	140	14	75.6	72.2	1009.5	01	8	2	9	2	-	-
544	1600	11/17	04°23'N	137°57'W	76.9	130	14	76.0	72.7	1010.7	15	6	7	9	2	-	-
545	1805	11/17	04°40'N	138°14'W	77.0	115	13	75.9	72.5	1012.1	02	5, 6	7	9	2	34.85	0.51
546	2000	11/17	04°39'N	138°10'W	77.4	125	14	77.1	72.2	1011.5	02	6	7	9	2	-	-
547	2200	11/17	04°54'N	138°24'W	79.2	140	15	78.7	73.4	1009.8	01	1, 8	5	9	2	-	-
548	0000	11/18	05°08'N	138°38'W	79.6	140	15	80.0	73.5	1008.3	02	4, 8	4	9	3	-	-
549	0200	11/18	05°21'N	138°53'W	79.5	130	16	79.7	74.0	1008.5	02	4, 8	5	9	3	-	-
550	0400	11/18	05°34'N	139°08'W	79.0	125	15	78.0	73.0	1009.5	02	4, 8	5	9	3	-	-
551	0605	11/18	05°40'N	139°16'W	80.0	120	13	77.5	72.2	1011.0	02	X	5	9	3	34.72	0.37
552	1000	11/18	05°25'N	139°10'W	78.3	140	15	77.0	72.8	1009.9	01	8	2	9	3	-	-
553	1200	11/18	05°10'N	139°11'W	79.1	140	18	75.0	72.2	1008.5	02	X	4	9	3	-	-
554	1400	11/18	04°56'N	139°12'W	79.0	130	18	77.0	73.9	1009.1	02	8	6	9	3	-	-
555	1600	11/18	04°42'N	139°13'W	79.0	130	18	77.0	72.2	1009.6	15	5, 6, 8	7	9	3	-	-
556	1755	11/18	04°35'N	139°14'W	78.8	120	19	77.8	73.8	1011.1	02	6, 8	7	8	3	34.88	0.42
557	2102	11/18	04°26'N	139°09'W	78.8	130	14	78.5	74.0	1009.3	01	8, 1	6	9	3	-	-
558	2300	11/18	04°10'N	139°10'W	76.7	140	15	76.8	74.1	1008.5	02	8, 1	6	9	3	-	-
559	0055	11/19	03°54'N	139°12'W	77.3	140	15	76.5	72.8	1008.2	02	8, 4	5	9	3	-	-
560	0300	11/19	03°38'N	139°14'W	76.9	125	19	76.0	71.5	1009.1	15	6, 8	5	9	3	-	-
561	0500	11/19	03°31'N	139°15'W	76.3	125	18	76.1	71.6	1010.2	15	6, 8	6	9	3	34.81	0.64
562	0802	11/19	03°24'N	139°07'W	76.2	110	17	76.3	72.5	1010.7	25	6	8	8	3	-	-
563	1000	11/19	03°13'N	139°08'W	76.2	130	19	74.8	72.0	1009.5	20	X	8	8	3	-	-

Note: Numbers underlined indicate BT's used on oceanographic stations, figure 9.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
564	1200	11/19	02°58'N	139°10'W	76.0	130	19	75.0	72.0	1008.9	02	X	8	7	3	-	-
565	1400	11/19	02°48'N	139°10'W	76.0	130	19	75.0	72.1	1009.2	01	4,6	7	8	3	-	-
566	1600	11/19	02°34'N	139°13'W	74.9	100	17	74.9	70.9	1010.1	02	4,6,8	7	9	3	-	-
567	1755	11/19	02°27'N	139°13'W	74.9	115	17	75.9	71.0	1010.9	01	4,8	2	9	3	34.81	0.63
568	2100	11/19	02°13'N	139°11'W	75.0	105	13	75.2	71.0	1010.2	02	4,6,8	3	9	3	-	-
569	2300	11/19	01°57'N	139°17'W	74.9	110	12	75.0	71.2	1008.8	03	4,6,8	7	9	2	-	-
570	0100	11/20	01°43'N	139°21'W	74.8	110	14	74.8	71.2	1008.4	02	4,6,8	6	9	2	-	0.61
571	0300	11/20	01°26'N	139°28'W	73.9	115	16	74.1	70.2	1009.1	01	4,6,8	3	9	3	-	-
572	0510	11/20	01°18'N	139°31'W	73.3	120	13	73.4	70.1	1009.9	02	X	1	9	3	34.85	0.70
573	0800	11/20	01°09'N	139°25'W	72.8	120	17	73.2	70.8	1010.2	02	8	1	8	3	-	-
574	1000	11/20	00°58'N	139°37'W	73.2	120	12	73.0	70.1	1009.5	02	X	1	9	3	-	-
575	1200	11/20	00°44'N	139°48'W	72.9	110	16	72.9	69.3	1008.8	02	6,8	1	9	3	-	-
576	1400	11/20	00°35'N	139°54'W	72.9	120	19	73.0	69.6	1009.5	03	6	7	8	3	-	0.74
577	1600	11/20	00°22'N	140°05'W	73.1	110	15	74.1	70.3	1010.4	02	6,8	6	9	3	-	-
578	1855	11/20	00°16'N	140°12'W	73.2	105	16	74.6	70.2	1011.4	02	8	4	9	3	35.08	0.84
579	2100	11/20	00°14'N	140°10'W	73.6	120	17	74.5	70.2	1010.2	01	4,8	1	9	3	-	-
580	2300	11/20	00°08'S	140°07'W	73.8	115	15	73.9	69.9	1008.9	02	5,6,8	1	9	3	-	-
581	0100	11/21	00°24'S	140°04'W	74.2	120	16	73.9	70.4	1008.0	02	5	1	9	3	-	0.89
582	0300	11/21	00°46'S	140°02'W	74.1	095	15	74.0	70.9	1009.4	02	5,8	2	9	3	-	-
583	0505	11/21	00°57'S	140°00'W	75.0	095	13	74.0	70.8	1010.8	02	5,8	3	9	3	35.32	0.92
584	0800	11/21	01°13'S	139°58'W	74.2	095	17	74.0	71.3	1011.7	02	8	4	9	3	-	-
585	1000	11/21	01°34'S	139°56'W	75.4	095	17	74.2	70.2	1010.9	02	X	5	9	3	-	-
586	1200	11/21	01°54'S	139°53'W	76.2	100	19	74.7	71.3	1010.2	03	X	7	7	3	-	0.86
587	1430	11/21	02°14'S	139°50'W	75.2	100	19	75.0	71.8	1013.6	02	4,6	7	8	3	-	-
588	1600	11/21	02°33'S	139°47'W	75.4	100	18	75.1	72.1	1012.4	02	4,6	6	9	3	-	-
589	1850	11/21	02°42'S	139°46'W	75.1	100	18	76.2	72.0	1013.5	02	6,8	7	9	3	35.34	0.61
590	2100	11/21	03°02'S	139°44'W	75.1	090	14	76.1	72.8	1012.4	01	4,6,8	4	9	3	-	-
591	2300	11/21	03°21'S	139°46'W	75.2	090	17	75.5	73.0	1010.5	02	4,8	2	9	3	-	-
592	0100	11/22	03°34'S	139°46'W	75.9	090	14	75.6	72.9	1009.6	01	4,8	1	9	3	-	0.84
593	0300	11/22	03°53'S	139°48'W	76.1	095	19	76.0	73.1	1010.2	02	8	1	9	3	-	-

Note: Numbers underlined indicate BT's used on oceanographic stations, figure 9.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
594	0450	11/22	04°03'S	139°49'W	76.3	090	14	75.8	72.9	1011.6	02	8	2	9	3	35.30	0.85
595	0745	11/22	04°08'S	139°39'W	75.3	090	17	75.5	72.5	1012.2	02	8	1	9	3	-	-
596	1000	11/22	04°27'S	139°42'W	75.9	100	17	75.6	72.9	1011.3	02	X	1	9	3	-	-
597	1200	11/22	04°45'S	139°47'W	75.7	090	18	75.8	72.3	1010.8	02	1	1	9	3	-	-
598	1400	11/22	05°03'S	139°51'W	76.2	090	19	76.3	72.0	1011.8	03	8	2	9	3	-	-
599	1600	11/22	05°21'S	139°54'W	76.5	095	18	76.5	72.8	1013.3	02	6,8	6	9	3	-	-
600	1755	11/22	05°31'S	139°57'W	76.8	095	19	77.8	72.5	1014.6	01	8	3	9	3	35.26	0.69
601	2055	11/22	05°36'S	139°50'W	77.0	090	19	77.9	72.9	1013.0	02	8	4	9	3-4	-	-
602	2300	11/22	05°52'S	139°47'W	76.9	090	20	77.1	72.7	1011.1	01	1,8	1	9	3	-	-
603	0100	11/23	06°09'S	139°40'W	77.1	085	18	77.8	72.9	1011.2	02	1,8	2	9	3	-	-
604	0300	11/23	06°24'S	139°33'W	77.2	095	16	77.2	72.2	1012.0	02	8	2	9	4	-	-
605	0500	11/23	06°33'S	139°30'W	77.0	095	16	76.8	72.2	1013.6	02	8	3	9	3	35.30	0.71
606	0755	11/23	06°35'S	139°21'W	76.5	090	21	76.7	72.3	1013.2	02	8	2	9	3	-	-
607	1000	11/23	06°54'S	139°20'W	75.9	105	20	76.1	72.0	1012.4	02	8	1	9	3	-	-
608	1205	11/23	07°13'S	139°18'W	77.8	110	22	76.8	72.2	1012.6	02	X	5	9	4	-	-
609	1400	11/23	07°32'S	139°17'W	77.9	110	23	77.0	71.9	1013.2	02	8	4	9	4	-	-
610	1800	11/23	08°10'S	139°18'W	78.6	110	17	79.2	72.2	1015.4	02	8	3	9	3	-	-
611	2000	11/23	08°25'S	139°30'W	78.8	100	18	79.9	74.2	1014.5	02	8	3	9	3	-	-
612	1800	12/1	07°51'S	140°45'W	77.2	080	15	77.8	71.2	1015.1	02	8	3	9	3	-	-
613	2155	12/1	07°24'S	141°09'W	77.6	090	13	77.9	72.0	-	02	8	2	9	3	-	-
614	0200	12/2	06°57'S	141°35'W	78.9	065	12	77.1	72.0	1017.9	02	8	1	9	2	-	-
615	0505	12/2	06°37'S	141°54'W	76.0	075	12	76.1	71.2	1013.6	02	8	1	9	2	-	2.38
616	0800	12/2	06°28'S	141°54'W	75.9	050	12	77.3	73.2	1013.9	02	8	2	9	2	35.44	-
617	1000	12/2	06°16'S	142°07'W	77.4	060	14	76.6	72.0	1013.4	03	8	4	9	2	-	-
618	1200	12/2	06°03'S	142°20'W	76.0	070	14	76.0	71.1	1012.5	01	8	2	9	2	-	-
619	1400	12/2	05°50'S	142°32'W	77.3	070	15	76.2	70.4	1013.3	02	8	2	9	2	-	-
620	1600	12/2	05°37'S	142°44'W	77.0	070	14	76.1	70.1	1014.1	02	8	3	9	2	-	-
621	1905	12/2	05°26'S	142°55'W	77.4	075	16	76.3	68.9	1015.2	02	8	2	9	2	35.52	1.07
622	2210	12/2	05°13'S	143°01'W	77.0	080	13	78.0	68.4	1013.6	02	8,1	1	9	3	-	-
623	0000	12/3	05°00'S	143°15'W	78.0	080	12	77.4	70.4	1012.6	03	8	5	9	2	-	-

Note: Numbers underlined indicate BT's used on oceanographic stations, figure 9.

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
624	0200	12/3	04°47'S	143°28'W	77.9	070	14	77.4	71.2	1012.1	01	1,8	3	9	2	-	-
625	0400	12/3	04°34'S	143°41'W	77.4	070	16	78.0	71.2	1014.9	02	4,6,1,8	3	9	2	-	-
626	0605	12/3	04°21'S	143°54'W	77.5	060	15	76.9	70.1	1013.9	02	X	3	9	2	35.52	1.19
627	0930	12/3	04°08'S	143°59'W	77.5	060	17	76.0	70.2	1014.0	02	8	1	9	2	-	-
628	1200	12/3	03°44'S	144°17'W	76.3	070	16	76.3	69.4	1012.5	02	8	2	9	2	-	-
629	1400	12/3	03°30'S	144°29'W	76.3	070	16	76.2	69.6	1012.7	02	8	1	9	2	-	-
630	1600	12/3	03°14'S	144°42'W	76.4	075	19	75.8	70.0	1013.1	03	6,8	7	9	3	-	-
631	1800	12/3	03°00'S	144°54'W	76.4	075	19	76.1	69.2	1014.0	02	4,6,8	6	9	3	35.32	0.95
632	2200	12/3	02°40'S	145°04'W	76.7	080	18	77.0	70.1	1012.5	02	4,6,8	6	9	3	-	-
633	0000	12/4	02°26'S	145°16'W	77.0	080	19	76.4	70.3	1011.2	01	8	2	9	3	-	-
634	0200	12/4	02°11'S	145°28'W	77.2	080	20	76.1	70.0	1011.1	02	8	1	9	3	-	-
635	0400	12/4	01°56'S	145°41'W	77.0	080	18	76.0	70.0	1011.0	03	6,8	4	9	3	-	-
636	0605	12/4	01°41'S	145°53'W	75.8	085	18	76.0	70.5	1013.3	02	8	3	9	3	35.39	1.21
637	0930	12/4	01°33'S	145°48'W	76.0	080	17	76.3	70.8	1013.0	02	8	5	9	3	-	-
638	1200	12/4	01°15'S	146°06'W	74.2	090	19	75.6	70.2	1011.7	01	8	1	9	3	-	-
639	1400	12/4	01°00'S	146°22'W	74.1	100	12	75.7	70.3	1012.4	03	4,6	5	9	3	-	-
640	1600	12/4	00°47'S	146°36'W	73.9	085	17	74.4	69.7	1013.6	15	4,6,8	3	9	3	-	-
641	1800	12/4	00°37'S	146°52'W	74.0	085	15	74.8	70.1	1014.6	01	6,8	2	9	3	35.16	0.99
642	2200	12/4	00°27'S	146°54'W	74.8	085	15	74.8	70.1	1012.5	02	8	1	9	3	-	-
643	0000	12/5	00°13'S	147°07'W	74.9	090	19	74.7	70.2	1010.9	01	8	1	9	3	-	-
644	0200	12/5	00°00'	147°20'W	75.0	100	17	75.1	70.1	1011.0	02	4	1	9	3	-	-
645	0405	12/5	00°14'N	147°33'W	75.2	095	17	74.8	70.1	1011.6	02	1,4,8	1	9	3	-	-
646	0605	12/5	00°28'N	147°46'W	74.8	100	16	74.8	69.9	1013.3	02	X	1	9	3	35.01	1.07
647	0930	12/5	00°36'N	147°46'W	74.8	090	16	74.0	70.3	1013.2	02	6,8	3	9	3	-	-
648	1200	12/5	00°55'N	147°57'W	74.2	090	17	74.3	70.7	1012.1	03	4,8	5	9	3	-	-
649	1400	12/5	01°11'N	148°06'W	74.5	100	19	74.4	70.3	1012.3	01	8	2	9	3	-	-
650	1600	12/5	01°25'N	148°16'W	74.9	100	19	74.1	69.8	1013.0	02	4,6,8	3	9	3	-	-
651	1800	12/5	01°39'N	148°27'W	76.3	100	18	75.2	69.8	1014.3	02	6,8	3	9	3	34.99	0.79, 0.63
652	2045	12/5	01°47'N	148°27'W	76.8	100	16	76.5	70.2	1013.9	02	8	4	9	3	-	-
653	2210	12/5	01°42'N	148°40'W	77.0	105	15	76.1	71.0	1013.2	03	6,8	5	9	3	-	-

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
654	0000	12/6	01°34'N	148°58'W	76.7	110	18	75.6	71.0	1012.6	50	4,6,8	7	7	3	-	-
655	0200	12/6	01°24'N	149°17'W	78.1	100	17	76.4	71.7	1012.2	01	8	2	9	3	-	-
656	0400	12/6	01°16'N	149°37'W	75.9	105	16	74.8	70.1	1013.1	02	4,8	2	9	3	-	-
657	0605	12/6	01°08'N	149°54'W	75.7	105	15	74.8	70.0	1013.4	02	X	1	9	3	35.05	0.80
658	0930	12/6	01°00'N	150°12'W	75.4	100	17	75.0	70.8	1013.2	02	X	1	9	3	-	-
659	1200	12/6	00°50'N	150°35'W	75.3	110	15	74.0	70.0	1012.1	03	8	3	9	2	-	-
660	1400	12/6	00°41'N	150°53'W	74.8	100	16	74.0	69.7	1012.2	02	8	2	9	2	-	-
661	1600	12/6	00°33'N	151°12'W	74.9	105	18	74.5	70.1	1013.4	03	4,6,8	3	9	3	-	-
662	1800	12/6	00°25'N	151°31'W	74.3	105	18	75.1	70.2	1014.1	02	1,4,8	3	9	3	35.28	1.03
663	2200	12/6	00°17'N	151°45'W	74.9	090	18	75.2	71.0	1012.6	01	1,4,8	1	9	3	-	-
664	0000	12/7	00°12'N	152°04'W	75.5	080	16	77.0	71.2	1011.0	02	4,8	1	9	3	-	-
665	0200	12/7	00°06'N	152°23'W	75.6	080	14	76.4	71.4	1010.6	03	1,8	5	9	3	-	-
666	0400	12/7	00°01'N	152°42'W	75.5	080	16	75.1	70.5	1011.5	02	1,8	4	9	3	-	-
667	0605	12/7	00°08'S	153°00'W	75.1	090	15	74.8	70.9	1012.6	02	X	3	9	3	35.19	0.71
668	0930	12/7	00°14'S	153°05'W	75.0	070	15	75.0	71.3	1012.5	02	X	2	9	3	-	-
669	1200	12/7	00°22'S	153°26'W	74.8	080	12	74.4	70.8	1011.5	03	5,8	7	8	2	-	-
670	1400	12/7	00°29'S	153°42'W	75.0	070	11	74.3	70.2	1011.4	02	5,8	7	8	2	-	-
671	1600	12/7	00°36'S	153°58'W	75.3	075	16	74.8	71.1	1012.1	02	4,6,8	7	9	2	-	-
672	1800	12/7	00°43'S	154°15'W	75.7	060	14	75.1	70.8	1013.1	15	6	7	8	2	35.07	0.84
673	2200	12/7	00°51'S	154°30'W	76.0	090	13	76.0	71.4	1013.1	01	8	5	9	2	-	-
674	0000	12/8	01°06'S	154°42'W	76.4	090	14	76.9	72.3	1009.6	01	4,8	1	9	2	-	-
675	0200	12/8	01°20'S	154°55'W	76.2	080	19	75.8	71.6	1008.7	02	1,6,8	2	9	3	-	-
676	0400	12/8	01°35'S	155°08'W	75.9	085	17	75.5	71.0	1009.4	02	1,8	2	9	3	-	-
677	0600	12/8	01°52'S	155°15'W	75.7	090	18	75.8	70.9	1010.7	02	8	2	9	3	35.25	0.75
678	0930	12/8	01°58'S	155°10'W	75.8	075	15	75.7	71.5	1011.6	02	X	1	9	3	-	-
679	1200	12/8	01°37'S	155°24'W	75.6	100	13	75.8	71.7	1010.5	02	4,8	2	9	2	-	-
680	1400	12/8	01°21'S	155°34'W	75.4	090	15	75.7	71.8	1009.9	02	8	2	9	2	-	-
681	1600	12/8	01°04'S	155°45'W	75.3	090	18	75.2	70.4	1010.7	02	4,8	3	9	3	-	-
682	1800	12/8	00°49'S	155°55'W	75.4	105	16	76.8	69.8	1012.1	02	4,8	3	9	3	35.14	0.80
683	2200	12/8	00°32'S	156°01'W	74.8	105	14	76.5	71.2	1010.6	15	6,8	7	9	3	-	-

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
684	0000	12/9	00°17'S	156°12'W	75.9	090	20	76.1	72.0	1009.0	02	4,6,8	7	8	3	-	-
685	0200	12/9	00°03'S	156°22'W	76.2	100	18	76.9	70.8	1008.2	01	4	1	9	3	-	-
686	0400	12/9	00°13'N	156°32'W	77.0	100	18	76.9	71.1	1009.0	02	1,8	1	9	3	-	-
687	0600	12/9	00°27'N	156°42'W	77.0	095	18	76.1	71.0	1010.2	02	8	1	9	3	-	-
688	0930	12/9	00°39'N	157°45'W	76.9	090	17	76.7	72.2	1010.7	02	X	1	8	3	35.12	0.98
689	1200	12/9	00°55'N	157°00'W	76.8	090	17	76.5	71.0	1010.0	02	8	1	9	3	-	-
690	1400	12/9	01°10'N	157°13'W	76.8	100	17	76.9	71.5	1009.5	50	6,8	6	9	3	-	-
691	1600	12/9	01°24'N	157°26'W	76.6	090	20	76.0	70.9	1010.8	03	4,6,8	3	9	3	-	-
692	1800	12/10	02°12'N	157°49'W	77.0	110	15	77.7	72.8	1012.6	02	1,4,6	7	9	3	35.16	0.82
693	2200	12/10	02°24'N	158°02'W	77.4	110	18	78.1	73.4	1012.0	02	6	7	9	3	-	-
694	0000	12/11	02°36'N	158°15'W	78.5	110	19	78.7	73.8	1010.6	50	1,4,6,8	7	8	3	-	-
695	0200	12/11	02°47'N	158°28'W	79.0	120	18	78.6	73.7	1010.1	02	4,6,8	6	8	3	-	-
696	0400	12/11	02°58'N	158°42'W	79.2	130	15	78.2	73.5	1011.2	80	6,8	7	9	3	-	-
697	0600	12/11	03°10'N	158°55'W	79.0	130	16	79.1	75.0	1012.5	01	X	5	9	3	35.08	0.48
698	0930	12/11	03°17'N	159°04'W	79.1	155	12	80.2	76.1	1013.1	20	X	3	9	2	-	-
699	1200	12/11	03°30'N	159°24'W	78.2	120	17	78.0	75.0	1011.6	50	6,8	4	8	3	-	-
700	1400	12/11	03°40'N	159°41'W	77.7	120	15	78.0	74.4	1011.0	50	6,8	4	8	3	-	-
701	1615	12/11	03°51'N	160°00'W	77.7	115	17	77.8	74.1	1012.0	02	4,6,8	4	9	3	-	-
702	1800	12/11	04°02'N	160°12'W	76.8	110	15	78.1	74.6	1013.8	02	6,8	3	9	3	35.08	0.63
703	2200	12/11	04°18'N	160°23'W	77.0	120	10	78.1	74.8	1012.3	01	1,4,8	1	9	3	-	-
704	0000	12/12	04°31'N	160°36'W	77.8	090	08	79.0	75.6	1010.7	03	4,8	7	8	3	-	-
705	0200	12/12	04°43'N	160°49'W	77.9	100	09	79.0	75.5	1009.7	01	1,8	2	9	2	-	-
706	0400	12/12	04°55'N	161°02'W	77.3	120	09	78.0	75.8	1010.6	02	1,4,6,8	2	9	2	-	-
707	0600	12/12	05°07'N	161°15'W	79.0	110	10	78.1	75.9	1011.5	02	X	1	9	2	35.10	0.46
708	0930	12/12	05°14'N	161°25'W	80.5	110	15	78.8	75.4	1011.7	02	X	1	8	2	-	-
709	1200	12/12	05°28'N	161°40'W	81.3	110	16	80.0	76.0	1010.0	03	5,6,8	7	7	2	-	-
710	1400	12/12	05°40'N	161°54'W	80.9	110	16	79.7	71.0	1009.0	01	8	2	8	2	-	-
711	1600	12/12	05°49'N	162°03'W	80.8	085	13	77.0	75.0	1009.6	60	6	7	8	2	-	-
712	1925	12/12	05°56'N	162°14'W	81.0	110	23	79.0	75.9	1011.0	02	6	8	8	3	34.85	0.48
713	2200	12/12	06°03'N	162°08'W	81.0	090	15	79.8	76.1	1010.5	02	6	8	8	3	-	-

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
714	0000	12/13	06°20'N	162°05'W	80.3	070	17	78.0	75.7	1009.2	14	6, 7, 8	8	6	4	-	-
715	0200	12/13	06°35'N	162°01'W	80.5	070	18	79.7	75.9	1008.0	14	6, 7, 8	8	6	3	-	-
716	0400	12/13	06°51'N	161°57'W	80.9	070	18	79.9	75.9	1008.9	02	6, 8	8	8	3	-	-
717	0600	12/13	07°07'N	161°53'W	81.0	050	22	77.9	74.6	1010.5	02	6, 8	8	8	4	-	-
718	0900	12/13	07°25'N	161°47'W	81.0	080	17	79.2	75.8	1011.0	25	X	8	8	4	-	-
719	1200	12/13	07°43'N	161°42'W	80.7	050	24	79.0	74.3	1008.1	60	X	X	7	4	-	-
720	1600	12/13	08°15'N	161°34'W	80.6	055	24	79.0	73.8	1008.6	02	6, 8	7	9	4	-	-
721	2000	12/13	08°46'N	161°26'W	80.6	055	22	81.3	73.8	1011.0	02	4, 8	5	9	4	34.40	0.45
722	0003	12/14	09°18'N	161°18'W	80.3	060	16	81.2	72.4	1008.8	01	8, 4	5	8	4	-	-
723	0610	12/14	09°52'N	161°06'W	80.0	060	18	77.8	70.5	1009.2	02	4, 6, 8	1	9	4	-	-
724	0800	12/14	10°24'N	161°01'W	78.6	060	19	78.1	72.2	1010.5	02	X	1	9	4	-	-
725	1200	12/14	10°56'N	160°56'W	78.1	060	19	77.0	70.8	1010.1	02	8	1	8	4	-	-
726	1600	12/14	11°29'N	160°50'W	78.0	070	18	77.0	71.3	1009.4	02	8	1	9	3	-	-
727	2000	12/14	12°02'N	160°45'W	78.2	075	16	78.1	72.0	1011.8	02	1, 8	2	9	3	34.23	0.21, 0.47
728	0000	12/15	12°33'N	160°42'W	78.1	085	20	79.7	72.0	1010.3	02	1, 8	2	9	3	-	-
729	0400	12/15	13°08'N	160°39'W	77.5	070	17	77.5	70.8	1010.8	02	8	2	9	3	-	-
730	0800	12/15	13°41'N	160°34'W	77.4	085	18	77.0	71.0	1013.0	02	8	2	9	3	-	-
731	1200	12/15	14°15'N	160°28'W	77.5	085	22	76.1	70.0	1011.8	02	X	2	9	3	-	-
732	1600	12/15	14°48'N	160°22'W	77.2	090	16	76.4	71.5	1014.2	03	8	2	9	3	-	-
733	2000	12/15	15°21'N	160°16'W	77.0	080	16	76.0	73.3	1014.4	03	4, 8	4	9	3	34.92	0.48
734	0000	12/16	15°56'N	160°09'W	76.7	120	22	73.1	71.2	1012.6	80	7	8	3	3	-	-
735	0400	12/16	16°31'N	160°02'W	76.8	080	20	77.0	72.8	1013.0	01	4, 8	6	8	3	-	-
736	0800	12/16	17°07'N	159°55'W	76.8	080	22	75.7	71.0	1015.8	01	8	1	9	3	-	-
737	1200	12/16	17°42'N	159°48'W	77.0	080	18	74.9	70.1	1015.7	02	8	2	9	3	-	-
738	1605	12/16	18°16'N	159°41'W	77.1	090	14	74.6	67.6	1015.5	03	8	1	9	2	-	-
739	2000	12/16	18°54'N	159°29'W	75.8	085	19	75.7	70.4	1016.8	02	8	6	8	2	35.14	0.96 P
740	0000	12/17	19°30'N	159°24'W	76.0	120	13	75.3	69.3	1014.2	01	1, 4, 8	1	9	2	-	-
741	0440	12/17	20°12'N	159°27'W	75.5	085	12	74.6	68.0	1014.1	02	1, 4, 8	2	9	2	35.25	0.36, 0.49
742	0720	12/17	20°28'N	159°08'W	76.0	070	10	74.1	67.6	1010.1	02	8	1	9	2	35.12	0.70
743	1000	12/17	20°43'N	158°50'W	75.2	080	12	74.6	68.0	1015.2	02	8	1	8	2	35.14	0.74

P - value doubtful

Table 8.--Observations at bathythermograph lowerings, recorded on U.S.N.H.O. Log Sheet B; for coded values see H. O. Pub. 606-C (Rev. 12.53) (cont'd)

Ser. No.	Time, GCT	Date, 1955	Latitude	Longitude	Bkt. temp., °F.	Wind		Air temp.		Barometer, mb.	Weather	Clouds		Visibility	Sea	Surf. sal., °/oo	Surf. PO_4-P, µg at./L.
						Dir., °T.	Force, kt.	Dry bulb, °F.	Wet bulb, °F.			Type	Cover				
744	1305	12/17	21°02'N	158°27'W	75.1	090	08	73.7	67.6	1014.4	02	4,8	1	9	2	35.12	0.33
745	1535	12/17	21°16'N	158°10'W	75.1	075	10	73.0	67.4	1014.1	02	8	2	8	2	35.64	0.78
746	1620	12/17	21°18'N	158°08'W	74.5	035	11	72.0	65.8	1014.4	02	8	2	8	2	35.10	0.50

Table 9.--Sightings of bird flocks, scattered birds, and aquatic mammals

Date, 1955	Noon position		Bird flocks												Scattered birds									Mammals	
				Size			Composition																			
	Latitude	Longitude	Total number	< 10	10 - 50	> 50	Terns	Boobies	Tropic-birds	Frigate-birds	Petrels or shearwaters	Storm-petrels	Others		Terns	Boobies	Tropic-birds	Frigate-birds	Petrels or shearwaters	Albatross	Skuas or Jaegers	Storm-petrels	Others	Porpoises	Whales
9/23	21°06'N	157°56'W	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	10	-	-	-	-	-	-
9/24	17°49'N	159°09'W	-	-	-	-	-	-	-	-	-	-	-		-	-	9	-	3	-	-	-	-	-	-
9/25	14°56'N	156°37'W	-	-	-	-	-	-	-	-	-	-	-		1	-	5	-	7	-	-	-	-	-	-
9/26	11°56'N	156°11'W	7	-	1	-	10	-	-	-	-	-	-		8	-	1	-	15	-	-	-	-	-	-
				-	1	-	20	-	-	-	15	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	1	-	12	-	-	-	4	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	1	-	12	-	-	-	5	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	40	-	-	-	30	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	60	-	-	-	35	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	48	-	-	-	24	-	-		-	-	-	-	-	-	-	-	-	-	-
9/27	09°10'N	155°47'W	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	14	-	-	1	-	-	-
9/28	06°33'N	154°28'W	-	-	-	-	-	-	-	-	-	-	-		-	3	1	-	14	-	-	1	-	-	-
9/29	05°31'N	154°13'W	1	-	1	-	-	-	-	-	X	-	-		-	5	4	-	22	-	1	1	-	-	-
9/30	07°28'N	151°58'W	5	1	-	-	1	-	-	-	8	-	-		-	-	1	-	33	-	-	-	-	-	-
				-	1	-	10	-	-	-	15	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	1	-	2	-	-	-	9	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	1	-	4	-	-	-	7	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	50	-	-	-	100	-	-		-	-	-	-	-	-	-	-	-	-	-
10/1	09°24'N	149°34'W	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	45	-	-	2	-	-	-
10/2	11°38'N	148°04'W	-	-	-	-	-	-	-	-	-	-	-		-	1	-	-	8	-	-	-	-	-	-
10/3	10°15'N	145°57'W	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	9	-	-	1	-	-	-
10/4	09°04'N	143°48'W	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	21	-	-	1	-	-	-
10/5	08°00'N	141°10'W	-	-	-	-	-	-	-	-	-	-	-		2	-	1	-	59	-	-	1	1	-	-
10/6	09°43'N	138°51'W	3	1	-	-	-	-	-	-	X	-	-		1	-	-	-	53	-	-	7	2	-	-
				-	1	-	10	-	-	-	35	-	5		-	-	-	-	-	-	-	-	-	-	-
				-	1	-	-	-	-	-	X	-	-		-	-	-	-	-	-	-	-	-	-	-
10/7	11°14'N	136°30'W	-	-	-	-	-	-	-	-	-	-	-		-	1	-	-	50	-	-	9	-	-	-
10/8	10°09'N	135°59'W	3	-	1	-	-	-	-	-	40	-	-		-	-	-	-	58	-	-	5	-	-	-
				-	-	1	15	-	-	-	65	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	-	-	-	-	60	-	-		-	-	-	-	-	-	-	-	-	-	-
10/9	09°01'N	131°21'W	2	-	2	-	-	-	-	-	60	-	-		1	-	-	1	19	-	-	4	-	-	-
10/10	10°12'N	128°13'W	2	-	-	2	-	-	-	-	X	-	-		-	-	-	-	66	-	1	21	1	2	1
10/11	11°00'N	126°02'W	1	-	1	-	-	-	-	-	50	-	-		-	-	-	-	25	-	-	9	-	-	-
10/12	12°08'N	123°34'W	1	-	1	-	2	-	-	-	28	-	-		2	-	-	-	22	-	-	53	-	-	-
10/13	10°18'N	121°04'W	2	-	1	-	-	-	-	-	40	-	-		-	-	-	-	36	-	-	35	1	-	-
				-	1	-	-	-	-	-	X	-	-		-	-	-	-	-	-	-	-	-	-	-
10/14	08°36'N	118°50'W	-	-	-	-	-	-	-	-	-	-	-		-	-	2	-	20	-	-	5	2	-	-
10/15	10°05'N	115°51'W	1	-	1	-	-	-	-	-	-	30	-		-	-	-	-	31	-	-	37	1	-	-
10/16	11°40'N	113°25'W	1	1	-	-	-	-	-	-	8	-	-		-	-	1	-	39	-	1	59	-	-	1
10/17	13°36'N	110°51'W	1	-	1	-	-	-	-	-	20	-	-		2	-	-	-	14	-	-	24	-	-	-
10/18	15°46'N	107°57'W	1	-	1	-	-	-	-	-	35	-	-		-	-	2	-	40	-	1	1	-	-	-

X - Number not recorded

Table 9.--Sightings of bird flocks, scattered birds, and aquatic mammals (cont'd)

Date, 1955	Noon position		Bird flocks											Scattered birds									Mammals	
				Size			Composition																		
	Latitude	Longitude	Total number	< 10	10 - 50	> 50	Terns	Boobies	Tropic-birds	Frigate-birds	Petrels or shearwaters	Storm-petrels	Others	Terns	Boobies	Tropic-birds	Frigate-birds	Petrels or shearwaters	Albatross	Skuas or Jaegers	Storm-petrels	Others	Porpoises	Whales
10/19	18°22'N	104°58'W	10	-	-	1	60	-	-	-	-	-	-	9	21	4	2	13	-	3	7	-	45	-
				-	-	1	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	1	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	2	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	2	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	1	50	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				1	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				1	-	-	-	-	-	-	13	-	-	-	-	-	-	-	-	-	-	-	-	-
10/24	18°53'N	104°26'W	10	-	1	-	-	14	-	-	-	-	-	-	45	1	-	17	-	-	-	-	-	-
				-	-	1	200	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	1	180	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	1	60	7	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	1	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	1	X	X	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	2	-	X	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	2	X	X	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
10/25	15°16'N	105°44'W	1	-	-	1	X	X	-	1	X	-	-	-	-	-	1	60	-	4	21	-	-	-
10/26	11°33'N	107°08'W	3	1	-	-	-	-	-	-	8	-	-	2	-	-	-	22	-	-	23	2	4	2
				2	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
10/27	07°58'N	108°25'W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	-	-	14	1	-	1
10/28	05°41'N	109°06'W	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	28	-	-	10	-	-	-
10/29	03°04'N	110°10'W	1	-	1	-	-	-	-	45	-	-	-	-	-	1	3	15	-	-	12	-	-	-
10/30	00°59'N	111°32'W	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	9	-	-	-
10/31	01°40'S	112°52'W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	32	-	-	-
11/1	04°25'S	112°50'W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	11	-	-	-
11/2	06°46'S	113°54'W	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	6	-	-	10	-	-	-
11/3	07°53'S	116°50'W	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	10	-	-	1	-	-	-
11/4	07°46'S	120°00'W	2	-	1	-	-	-	-	-	-	-	X	-	-	6	-	18	-	-	2	-	-	-
				-	1	-	30	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-
11/5	05°14'S	120°00'W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	1	-
11/6	02°38'S	120°01'W	1	-	1	-	-	-	-	-	X	-	-	1	-	-	-	9	-	-	6	-	-	-
11/7	00°03'S	119°52'W	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	7	-	-	10	-	50	-
11/8	02°50'N	120°00'W	1	-	-	-	15	-	-	-	2	-	-	-	-	-	-	2	-	-	7	-	26	-
11/9	04°42'N	119°48'W	-	-	-	-	-	-	-	-	-	-	-	2	-	1	-	1	-	-	14	-	-	-
11/10	04°56'N	121°26'W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	9	-	-	-
11/11	02°52'N	123°50'W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	2	14	-	-	-
11/12	01°11'N	126°21'W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-
11/13	00°32'S	128°40'W	1	1	-	-	-	-	-	-	5	-	-	-	-	-	-	2	-	1	18	-	-	-
11/14	02°02'S	130°46'W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	10	-	-	-
11/15	00°14'N	133°12'W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	8	-	-	-
11/16	01°44'N	135°50'W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	22	-	-	-
11/17	04°48'N	138°16'W	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	11	-	2	22	-	-	-
11/18	04°26'N	139°09'W	1	-	1	-	25	-	-	-	20	5	-	-	-	1	-	23	-	-	31	-	-	-

X - Number not recorded

Table 9.--Sightings of bird flocks, scattered birds, and aquatic mammals (cont'd)

Date, 1955	Noon position		Bird flocks												Scattered birds									Mammals	
				Size			Composition																			
	Latitude	Longitude	Total number	< 10	10 - 50	> 50	Terns	Boobies	Tropic-birds	Frigate-birds	Petrels or shearwaters	Storm-petrels	Others		Terns	Boobies	Tropic-birds	Frigate-birds	Petrels or shearwaters	Albatross	Skuas or Jaegers	Storm-petrels	Others	Porpoises	Whales
11/19	02°13'N	139°11'W	-	-	-	-	-	-	-	-	-	-	-		-	-	1	-	3	-	-	10	-	-	-
11/20	00°14'N	140°10'W	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	3	-	-	3	-	-	-
11/21	03°02'S	139°44'W	13	-	-	-	-	-	-	-	-	-	-		-	-	1	-	3	-	-	5	-	-	-
11/22	05°36'S	139°50'W	1	-	1	-	68	-	-	-	2	-	-		16	-	18	-	35	-	-	7	-	-	-
11/23	08°32'S	139°37'W	4	-	1	-	X	-	-	-	X	-	-		52	6	-	1	15	-	-	-	-	-	-
				-	1	-	20	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	70	-	-	1	20	-	10		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	150	-	-	2	30	-	20		-	-	-	-	-	-	-	-	-	-	-
11/26	08°56'S	140°02'W	2	-	1	-	15	-	-	-	-	-	-		20	12	-	2	28	-	-	24	-	-	-
				-	-	1	25	-	-	-	10	-	15		27	-	-	-	-	-	-	-	-	-	-
11/27	08°48'S	140°02'W	3	-	1	-	-	X	-	X	-	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	1	-	X	X	X	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	90	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
11/29	09°49'S	139°01'W	8	-	2	-	20	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	1	-	40	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	1	-	36	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	100	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	100	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	26	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	50	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
11/30	09°45'S	139°21'W	6	-	-	1	50	10	-	5	12	-	-		50	3	-	-	42	-	-	-	-	-	-
				-	-	1	10	2	-	2	10	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	38	2	-	-	20	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	50	5	-	-	15	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	50	-	-	-	10	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	X	-	-	X	-	-	-		-	-	-	-	-	-	-	-	-	-	-
12/1	07°30'S	141°03'W	-	-	-	-	-	-	-	-	-	-	-		69	12	-	-	6	-	-	1	-	-	-
12/2	05°13'S	143°01'W	3	-	1	-	12	1	-	-	3	-	-		5	2	-	-	3	-	-	-	-	-	-
				-	1	-	17	2	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	56	-	-	7	15	-	-		-	-	-	-	-	-	-	-	-	-	-
12/3	02°40'S	145°04'W	-	-	-	-	-	-	-	-	-	-	-		2	-	-	1	3	-	1	-	-	-	-
12/4	00°27'S	146°54'W	-	-	-	-	-	-	-	-	-	-	-		1	-	-	-	2	-	-	-	-	-	-
12/5	01°42'N	148°32'W	1	-	-	1	X	-	-	-	X	-	-		-	-	1	-	8	-	-	-	-	-	-
12/6	00°17'N	151°45'W	1	-	-	1	80	-	-	-	-	-	-		4	1	2	-	1	-	1	4	-	2	-
12/7	00°51'S	154°30'W	-	-	-	-	-	-	-	-	-	-	-		2	1	2	-	5	-	-	2	1	3	5
12/8	00°32'S	156°01'W	3	-	1	-	X	X	-	X	-	-	-		60	5	7	2	4	-	-	4	-	-	-
				-	1	-	X	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	-	1	X	X	-	X	X	-	-		-	-	-	-	-	-	-	-	-	-	-
12/9	00°58'N	157°28'W	2	-	-	2	X	X	-	X	X	-	-		20	6	-	-	-	-	-	-	-	-	-
12/10	02°24'N	158°02'W	3	-	1	-	38	2	-	-	9	-	-		98	22	21	3	13	-	-	5	-	-	-
				-	1	-	X	-	-	-	X	-	-		-	-	-	-	-	-	-	-	-	-	-
				-	1	-	20	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-

X - Number not recorded

Table 9.--Sightings of bird flocks, scattered birds, and aquatic mammals (cont'd)

Date, 1955	Noon position		Bird flocks											Scattered birds									Mammals	
				Size			Composition																		
	Latitude	Longitude	Total number	< 10	10 - 50	> 50	Terns	Boobies	Tropic-birds	Frigate-birds	Petrels or shearwaters	Storm-petrels	Others	Terns	Boobies	Tropic-birds	Frigate-birds	Petrels or shearwaters	Albatross	Skuas or Jaegers	Storm-petrels	Others	Porpoises	Whales
12/11	04°18'N	160°23'W	9	1	-	-	X	X	-	-	-	-	-	249	103	12	2	15	-	-	9	-	-	-
				-	1	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	1	-	X	X	-	2	X	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	1	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	1	-	31	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	1	-	20	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	1	-	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	1	34	18	7	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-
				-	-	1	X	X	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-
12/12	06°03'N	162°08'W	-	-	-	-	-	-	-	-	-	-	-	2	6	-	-	2	-	-	-	-	-	-
12/13	09°02'N	161°23'W	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	3	1	-	-	-	-	-
12/14	12°18'N	160°43'W	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	5	-	-	-	-	-	-
12/15	15°38'N	160°13'W	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	1	-	-	-	-	-	-
12/16	19°12'N	159°23'W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-

X - Number not recorded

Table 10.--Sightings of tuna schools

Date, 1955	Noon position		Tuna schools		Size of school	Est. size of fish, lbs.	Birds with school
	Latitude	Longitude	Kind	Total			
9/26	11°56'N	156°11'W	Unidentified	5	Undetermined	-	Yes
9/30	07°28'N	151°58'W	Skipjack	1	Large	4	Yes
			Unidentified	1	Undetermined	-	Yes
			Unidentified	1	Small	-	Yes
			Unidentified	1	Small	-	No
10/1	09°24'N	149°34'W	Skipjack	1	Large	15-20	Yes
10/6	09°43'N	138°51'W	Skipjack	1	Large	0.5	Yes
10/8	10°09'N	135°59'W	Unidentified	2	Undetermined	-	Yes
10/10	10°12'N	128°13'W	Unidentified	2	Undetermined	-	Yes
10/11	11°00'N	126°02'W	Unidentified	1	Medium	-	Yes
10/19	18°22'N	104°58'W	Unidentified	2	Large	-	Yes
			Skipjack	2	Large	18-20	Yes
			Skipjack	1	Large	8-12	Yes
			Skipjack	1	Large	8-12	No
			Skipjack	1	Large	20	Yes
			Skipjack	1	Large	15	No
			Yellowfin	1	Large	-	No
10/24	18°53'N	104°26'W	Unidentified	5	Large	-	Yes
10/29	03°04'N	110°10'W	Unidentified	1	Undetermined	-	Yes
11/4	07°46'S	120°00'W	Unidentified	1	Small	-	Yes
11/6	02°38'S	120°01'W	Unidentified	1	Small	-	Yes
11/13	00°32'S	128°40'W	Unidentified	1	Undetermined	40	Yes
11/23	08°32'S	139°37'W	Unidentified	2	Undetermined	-	Yes
11/30	Tahuata	Eiao	Skipjack	1	Large	3	Yes
			Skipjack	1	Large	3	No
12/2	05°13'S	143°01'W	Skipjack	1	Large	20	Yes
12/5	01°42'N	148°32'W	Unidentified	1	Undetermined	-	Yes
12/9	00°58'N	157°28'W	Yellowfin	1	Large	20	Yes
12/10	02°24'N	158°02'W	Skipjack	1	Small	-	Yes
12/11	04°18'N	160°23'W	Skipjack	1	Undetermined	4	Yes
			Skipjack	1	Large	10	Yes
			Yellowfin	1	Large	-	Yes

Table 11.--Surface troll catch

Date, 1955	Position		Species	Sex	Fork length, cm.
	Latitude	Longitude			
9/25	14°47'N	156°36'W	Dolphin (Coryphaena hippurus)	F	84.4
			Dolphin	F	83.5
9/27	09°30'N	155°51'W	Dolphin	F	84.0
			Dolphin	M	79.1
			Wahoo (Acanthocybium solandri)	F	98.0
			Wahoo	M	100.1
			Yellowfin tuna (Neothunnus macropterus)	F	53.1
			Yellowfin	M	43.2
10/1	09°59'N	149°02'W	Dolphin	F	85.1
10/8	09°48'N	133°14'W	Yellowfin	M	52.5
10/12	12°07'N	123°56'W	Dolphin	F	96.6
			Dolphin	F	102.5
10/13	10°09'N	120°52'W	Dolphin	F	99.2
10/17	13°53'N	110°28'W	Wahoo	M	125.7
10/19	18°51'N	104°30'W	Black skipjack (Euthynnus lineatus)	F	52.0
10/19	18°57'N	104°24'W	Black skipjack	F	46.8
10/27	07°32'N	108°31'W	Yellowfin	F	55.1
11/5	04°42'N	120°03'W	Dolphin	M	93.4
11/5	04°24'S	120°05'W	Skipjack (Katsuwonus pelamis)	F	66.7
11/13	00°20'S	128°18'W	Skipjack	M	62.7
11/16	01°51'N	135°56'W	Dolphin	M	118.7
			Dolphin	F	124.2
11/21	03°40'S	139°39'W	Wahoo	M	118.0
12/11	04°36'S	160°40'W	Yellowfin	M	56.1
12/12	06°39'N	161°57'W	Wahoo	M	137.2
12/14	12°34'N	160°42'W	Dolphin	F	104.1
12/16	18°55'N	159°25'W	Dolphin	F	110.9

Table 12.--Log of ship's weather observations recorded on U.S.W.B. Form 1210F in International Ship Weather Code

Date, 1955	Latitude	Longitude	Time, GCT	Visibility	Wind		Weather		Pressure			Temperature			Clouds						Waves		
					Direction	Speed, kt.	Present	Past	Bar. corr., mb.	Characteristic	Amt. change	Dry bulb, °F.	Wet bulb, °F.	Sea water, °F.	Total amount	Amount low	Type low	Height low	Type middle	Type high	Direction	Period	Height
9/24	19.8°N	157.6°W	0600	99	12	11	02	0	1014.6	1	1.0	76.9	72.1	78.2	2	2	1	5	0	0	14	2	2
9/24	19.9°N	157.6°W	1200	99	14	17	02	0	1013.2	7	1.4	75.5	71.8	77.5	1	1	-	-	0	0	49	X	3
9/24	18.4°N	157.3°W	1800	99	11	18	02	0	1014.2	2	1.4	77.2	71.2	77.1	2	2	1	5	0	0	10	2	3
9/25	17.8°N	157.1°W	0000	99	10	17	02	0	1012.8	7	2.0	78.0	72.6	77.8	2	2	1	5	0	0	12	4	3
9/25	17.1°N	157.0°W	0600	99	08	19	02	0	1013.8	2	2.0	77.1	71.2	78.0	3	3	1	5	0	0	04	2	3
9/25	15.9°N	156.8°W	1200	99	08	21	02	0	1012.0	6	2.2	76.5	71.5	77.7	2	2	-	-	0	0	12	X	3
9/25	15.4°N	156.7°W	1800	99	07	19	02	0	1013.0	2	1.4	78.0	71.2	77.8	2	1	1	5	3	0	12	3	3
9/26	14.9°N	156.6°W	0000	99	07	19	02	0	1010.7	7	2.0	76.9	71.2	78.8	3	2	1	5	0	1	09	4	3
9/26	13.7°N	156.4°W	0600	99	05	17	02	0	1012.6	1	2.0	78.1	72.5	78.9	2	2	1	0	0	0	09	4	3
9/26	13.0°N	156.3°W	1200	99	05	20	03	0	1011.4	7	1.7	78.0	73.2	78.9	5	5	1	4	0	0	09	X	3
9/26	12.1°N	156.2°W	1800	99	06	17	02	2	1013.5	2	2.4	79.8	74.3	79.7	6	6	1	5	0	0	08	4	2
9/27	11.6°N	156.2°W	0000	99	05	17	03	2	1011.1	6	2.0	80.0	74.3	80.3	7	7	8	5	0	0	08	4	2
9/27	10.8°N	156.0°W	0600	98	05	16	02	2	1012.7	2	1.7	77.8	74.2	80.3	7	7	4	-	0	0	08	X	2
9/27	10.0°N	155.9°W	1200	93	05	26	63	2	1012.5	6	1.4	73.0	72.5	80.0	9	9	X	0	X	X	06	3	3
9/27	09.6°N	155.9°W	1800	99	00	00	02	0	1014.2	2	0.9	81.0	75.0	80.4	3	2	2	5	6	0	14	3	2
9/28	09.2°N	155.7°W	0000	99	09	03	02	2	1011.9	6	2.4	78.2	71.2	82.0	5	2	7	5	4	0	49	3	X
9/28	08.0°N	155.3°W	0600	99	04	12	01	0	1013.3	2	1.7	80.5	75.0	81.8	2	2	2	5	0	0	12	X	2
9/28	07.4°N	155.3°W	1200	99	09	10	15	8	1011.6	7	2.0	79.1	75.3	81.7	3	2	2	5	1	0	49	X	2
9/28	06.8°N	155.9°W	1800	99	12	12	03	1	1013.7	2	2.0	80.1	74.7	81.2	6	6	2	5	8	0	14	3	3
9/29	05.7°N	154.0°W	0000	99	12	12	02	1	1011.0	7	2.7	79.8	74.8	81.4	4	4	2	5	0	0	12	3	3
9/29	05.4°N	154.9°W	0600	99	12	15	02	1	1012.0	2	2.0	78.7	74.4	80.0	1	1	1	5	0	0	12	X	3
9/29	04.9°N	154.9°W	1200	99	12	15	02	1	1010.6	7	2.0	78.3	74.4	80.0	6	6	1	5	0	0	12	3	3
9/29	04.7°N	154.7°W	1800	98	13	18	01	2	1012.2	2	2.0	79.4	74.1	79.1	8	8	4	4	X	X	12	4	3
9/30	06.3°N	154.0°W	0000	98	14	19	02	2	1009.7	7	2.7	79.8	75.1	79.6	7	7	4	4	0	0	10	4	3
9/30	06.3°N	153.5°W	0600	98	14	13	02	2	1011.5	2	2.4	80.0	76.2	81.0	8	8	5	4	X	X	13	4	3
9/30	06.9°N	152.9°W	1200	99	15	17	01	2	1009.5	7	2.4	79.2	76.0	81.3	3	3	1	5	0	0	13	3	3
9/30	07.4°N	152.5°W	1800	98	14	18	02	2	1011.8	2	2.4	81.1	76.1	81.6	8	8	5	4	X	X	13	4	3
10/1	07.7°N	151.8°W	0000	94	18	08	65	2	1009.6	7	2.7	78.8	76.3	81.7	8	8	6	3	X	X	14	3	3
10/1	08.3°N	151.2°W	0600	96	08	26	60	6	1013.0	1	3.1	75.0	72.8	80.7	8	8	6	3	X	X	13	4	3
10/1	09.0°N	150.7°W	1200	99	12	17	01	6	1009.8	7	2.7	77.4	74.8	80.9	7	2	5	4	5	0	08	3	4

Table 12.--Log of ship's weather observations recorded on U.S.W.B. Form 1210F in International Ship Weather Code (cont'd)

Date, 1955	Latitude	Longitude	Time, GCT	Visibility	Wind		Weather		Pressure			Temperature			Clouds						Waves		
					Direction	Speed, kt.	Present	Past	Bar. corr., mb.	Characteristic	Amt. change	Dry bulb, °F.	Wet bulb, °F.	Sea water, °F.	Total amount	Amount low	Type low	Height low	Type middle	Type high	Direction	Period	Height
10/1	09.3°N	150.6°W	1800	99	15	11	02	2	1012.6	2	2.4	79.3	76.1	80.5	7	2	4	5	3	0	08	4	3
10/2	09.6°N	149.3°W	0000	99	09	10	02	1	1010.1	7	2.2	80.9	75.7	81.4	3	2	1	5	4	1	09	4	3
10/2	10.3°N	148.8°W	0600	99	06	16	02	0	1012.1	2	2.4	80.3	76.0	80.4	3	2	2	5	4	0	08	4	3
10/2	10.9°N	148.5°W	1200	99	05	18	15	1	1011.1	6	1.7	78.9	76.1	79.5	5	5	2	5	0	0	03	4	3
10/2	11.7°N	148.2°W	1800	98	06	18	60	8	1012.8	1	1.4	78.3	76.4	79.0	7	5	5	3	8	0	06	4	3
10/3	11.5°N	147.8°W	0000	98	05	15	16	8	1010.9	7	2.0	79.1	76.2	79.6	7	7	4	3	0	0	07	3	3
10/3	11.0°N	147.0°W	0600	98	07	18	01	1	1012.8	2	2.0	79.6	76.8	79.6	2	2	2	4	0	0	09	4	3
10/3	10.9°N	146.8°W	1200	99	07	18	02	1	1011.2	6	2.0	79.8	75.2	80.0	3	3	2	5	0	0	06	4	3
10/3	10.3°N	146.2°W	1800	99	06	22	03	0	1012.4	2	1.4	78.3	76.0	80.3	6	6	4	4	0	0	07	2	4
10/4	10.1°N	145.7°W	0000	99	09	15	02	1	1009.5	7	2.4	80.1	75.2	80.9	3	3	2	4	0	0	06	2	3
10/4	09.9°N	145.2°W	0600	99	06	15	02	1	1011.3	2	2.0	80.0	75.7	80.7	2	2	1	4	0	0	06	3	3
10/4	09.5°N	144.5°W	1200	99	06	20	03	1	1009.5	7	2.4	78.9	76.2	80.5	7	7	4	4	X	X	06	3	3
10/4	09.1°N	144.9°W	1800	99	08	16	03	1	1011.3	1	1.7	79.6	77.0	80.6	7	7	4	4	X	X	09	4	4
10/5	08.9°N	143.5°W	0000	99	13	09	02	2	1009.3	7	2.0	79.0	75.9	80.9	7	7	4	5	X	X	13	3	3
10/5	08.5°N	142.9°W	0600	95	16	12	20	2	1011.8	2	1.4	81.0	74.8	80.4	9	9	X	0	X	X	15	4	3
10/5	08.2°N	142.4°W	1200	99	17	12	02	8	1009.4	7	2.0	77.5	74.0	80.4	7	5	4	4	1	X	14	3	3
10/5	07.9°N	141.9°W	1800	99	16	18	02	2	1011.8	2	2.0	80.0	74.7	81.0	7	5	4	4	6	0	15	4	3
10/6	08.3°N	140.8°W	0000	99	17	18	02	2	1009.6	6	2.4	81.0	75.8	81.0	7	5	4	5	6	0	16	4	3
10/6	08.6°N	140.2°W	0600	98	17	19	21	2	1011.4	1	1.5	80.3	76.2	80.9	8	8	5	4	X	X	49	X	3
10/6	09.3°N	139.5°W	1200	97	16	07	62	6	1010.6	7	1.0	77.1	75.3	81.0	8	8	5	4	X	X	14	4	3
10/6	09.8°N	139.0°W	1800	98	22	08	02	2	1013.0	2	1.4	80.7	76.4	80.2	7	6	4	3	1	1	19	4	3
10/7	10.1°N	138.4°W	0000	96	02	04	62	6	1011.6	7	1.0	75.0	74.0	79.5	8	8	4	3	X	X	01	4	3
10/7	10.5°N	137.8°W	0600	98	09	13	02	2	1014.1	2	1.4	78.0	75.0	79.0	8	8	4	3	X	X	49	X	3
10/7	11.4°N	136.5°W	1200	99	07	16	02	2	1012.4	6	1.9	79.6	74.2	79.2	7	0	0	9	3	0	09	3	3
10/7	11.3°N	137.5°W	1800	99	08	17	02	0	1014.4	1	1.4	79.2	75.0	78.8	4	4	2	4	0	1	09	4	3
10/8	11.0°N	136.2°W	0000	99	08	16	02	0	1011.4	6	2.4	79.1	74.8	79.2	3	3	2	4	0	0	06	4	3
10/8	10.9°N	135.8°W	0600	99	07	16	02	0	1014.2	2	1.4	79.0	74.8	79.5	2	2	1	3	0	0	09	4	3
10/8	10.5°N	134.9°W	1200	99	06	16	02	0	1012.0	6	2.0	79.0	73.8	79.7	2	2	1	4	0	0	06	4	3
10/8	10.1°N	132.4°W	1800	99	06	15	02	0	1013.9	1	1.0	80.1	74.4	80.4	2	2	1	3	0	0	05	4	3
10/9	09.9°N	133.4°W	0000	99	07	17	15	0	1010.7	6	1.9	80.2	75.3	80.7	5	5	4	5	2	0	06	4	3

Table 12.--Log of ship's weather observations recorded on U.S.W.B. Form 1210F in International Ship Weather Code (cont'd)

Date, 1955	Latitude	Longitude	Time, GCT	Visibility	Wind		Weather		Pressure			Temperature			Clouds						Waves		
					Direction	Speed, kt.	Present	Past	Bar. corr., mb.	Characteristic	Amt. change	Dry bulb, °F.	Wet bulb, °F.	Sea water, °F.	Total amount	Amount low	Type low	Height low	Type middle	Type high	Direction	Period	Height
10/9	09.5°N	132.7°W	0600	99	07	16	01	2	1013.5	2	2.0	80.0	75.3	80.0	4	4	4	3	0	0	08	4	3
10/9	09.3°N	132.3°W	1200	99	13	09	02	8	1011.1	6	1.7	78.0	75.1	80.0	5	0	0	9	5	0	12	4	3
10/9	09.0°N	131.6°W	1800	99	11	11	21	2	1013.4	2	1.5	78.1	75.1	80.7	7	6	4	3	6	0	13	4	3
10/10	09.3°N	130.7°W	0000	96	10	08	62	8	1010.6	5	0.7	76.0	74.9	80.9	8	8	6	4	X	X	12	4	3
10/10	09.4°N	130.3°W	0600	99	20	10	02	2	1013.5	1	1.4	79.7	75.4	80.5	7	7	4	4	X	X	49	X	2
10/10	09.8°N	129.5°W	1200	99	18	05	02	2	1011.4	6	0.7	79.3	74.2	80.2	6	6	1	4	0	0	16	4	2
10/10	10.2°N	128.5°W	1800	99	01	14	61	2	1014.0	1	0.9	-	-	80.0	8	8	7	3	X	X	02	4	2
10/11	10.5°N	127.6°W	0000	99	04	18	02	6	1010.4	6	1.7	79.9	75.1	80.1	8	5	4	4	2	X	03	4	3
10/11	10.6°N	127.1°W	0600	99	05	16	02	2	1013.6	1	1.0	79.8	74.4	79.1	7	X	X	X	X	X	05	4	3
10/11	10.9°N	126.5°W	1200	99	04	16	02	2	1011.4	6	1.4	79.6	73.9	79.8	X	X	X	X	X	X	06	4	3
10/11	11.0°N	126.2°W	1800	99	04	13	01	1	1014.2	1	1.4	80.2	74.3	80.0	3	2	2	4	6	1	06	4	2
10/12	11.4°N	125.5°W	0000	99	04	15	02	1	1011.8	5	0.7	79.9	73.0	80.0	5	3	2	4	6	0	02	4	3
10/12	11.5°N	125.0°W	0600	99	04	12	02	0	1015.2	1	1.4	79.0	71.7	79.7	4	2	1	4	6	0	06	4	3
10/12	11.9°N	124.3°W	1200	99	03	16	02	0	1012.9	6	0.7	78.9	71.2	79.4	3	3	1	4	0	0	06	4	3
10/12	12.1°N	123.7°W	1800	99	03	15	03	0	1014.8	0	0.3	78.9	72.0	79.8	4	1	1	4	5	4	03	4	3
10/13	11.8°N	123.1°W	0000	99	20	20	02	1	1011.4	5	1.7	78.7	70.8	80.0	2	1	1	4	0	1	01	3	3
10/13	11.2°N	121.3°W	0600	99	02	14	02	1	1014.5	2	1.4	78.2	71.0	79.7	2	2	1	4	0	0	03	3	3
10/13	10.7°N	121.6°W	1200	99	02	16	02	0	1011.6	5	1.0	78.3	72.3	79.6	X	X	X	X	X	X	02	3	3
10/13	10.2°N	121.0°W	1800	99	01	14	02	2	1013.8	0	0.0	80.0	73.5	79.9	7	7	4	4	0	0	01	3	3
10/14	09.9°N	120.6°W	0000	99	36	17	02	2	1010.6	5	1.0	79.8	74.5	80.4	8	8	4	4	X	X	19	4	3
10/14	09.5°N	119.9°W	0600	99	36	09	01	2	1013.7	1	1.0	79.0	73.9	79.8	5	5	4	4	0	0	01	4	3
10/14	09.0°N	119.2°W	1200	99	36	15	02	1	1010.8	5	0.8	79.5	74.1	79.4	3	X	X	X	X	X	36	4	3
10/14	08.5°N	118.8°W	1800	99	31	08	02	2	1013.5	0	0.7	79.3	75.2	80.3	7	5	4	4	6	0	19	4	3
10/15	08.9°N	118.3°W	0000	99	28	15	62	8	1009.9	6	0.9	78.2	75.2	79.9	7	6	4	4	6	0	13	4	3
10/15	09.3°N	117.6°W	0600	99	33	07	02	2	1012.7	1	0.7	79.6	73.7	79.9	6	6	4	4	0	0	49	X	2
10/15	09.7°N	116.9°W	1200	99	33	07	02	1	1010.6	5	1.0	79.1	73.3	80.0	4	X	X	X	X	X	13	4	3
10/15	09.9°N	116.0°W	1800	99	31	08	02	0	1012.5	0	0.0	80.1	73.4	80.9	1	1	2	4	6	0	49	X	2
10/16	10.4°N	115.3°W	0000	99	32	09	03	1	1010.3	5	0.0	80.1	73.1	80.9	7	3	2	4	2	1	13	4	2
10/16	10.8°N	114.5°W	0600	99	33	11	02	2	1012.2	1	0.7	80.1	73.2	80.5	7	3	1	3	2	0	49	X	2
10/16	11.2°N	113.9°W	1200	99	33	13	02	1	1010.8	5	0.5	79.7	73.4	80.5	X	X	X	X	X	X	33	4	2

Table 12.--Log of ship's weather observations recorded on U.S.W.B. Form 1210F in International Ship Weather Code (cont'd)

Date, 1955	Latitude	Longitude	Time, GCT	Visibility	Wind		Weather		Pressure			Temperature			Clouds						Waves		
					Direction	Speed, kt.	Present	Past	Bar. corr., mb.	Characteristic	Amt. change	Dry bulb, °F.	Wet bulb, °F.	Sea water, °F.	Total amount	Amount low	Type low	Height low	Type middle	Type high	Direction	Period	Height
10/16	11.7°N	113.3°W	1800	99	31	09	02	1	1013.2	0	0.0	80.4	71.8	80.8	4	2	1	4	4	0	32	4	2
10/17	12.1°N	112.9°W	0000	99	27	06	02	0	1010.6	5	0.0	81.0	72.1	81.2	3	2	2	5	0	1	33	4	2
10/17	12.0°N	112.2°W	0600	99	00	00	01	1	1010.6	0	0.0	79.4	72.0	80.7	2	2	1	4	0	0	49	X	2
10/17	13.1°N	111.6°W	1200	99	00	00	02	0	1011.3	5	0.0	70.8	71.9	81.0	3	X	X	X	X	X	31	4	2
10/17	13.4°N	111.1°W	1800	99	32	02	02	0	1013.1	0	0.3	79.8	72.1	81.8	2	2	2	5	6	0	31	4	3
10/18	14.0°N	110.4°W	0000	99	35	09	03	1	1011.1	0	0.0	78.0	71.0	80.5	7	7	4	4	0	0	03	4	2
10/18	14.6°N	109.6°W	0600	99	30	08	01	1	1013.7	1	0.5	78.5	70.4	80.0	2	X	X	X	X	X	31	4	2
10/18	15.3°N	108.6°W	1200	99	30	01	01	0	1012.2	6	0.5	78.0	72.4	79.2	1	1	1	5	0	0	30	3	2
10/18	15.7°N	108.9°W	1800	99	34	10	02	0	1014.3	0	0.3	78.2	72.7	79.5	1	1	2	4	0	0	01	4	2
10/19	16.3°N	107.4°W	0000	99	31	07	02	0	1012.8	4	0.0	78.1	73.0	76.6	1	1	2	4	0	0	35	4	2
10/19	17.0°N	106.6°W	0600	99	29	06	02	0	1014.8	1	0.7	76.0	73.8	75.8	1	1	1	5	0	0	33	3	2
10/19	17.6°N	106.2°W	1200	99	30	14	02	0	1013.2	5	0.3	76.5	73.5	77.8	1	1	2	4	6	0	33	3	2
10/19	18.0°N	105.1°W	1800	99	11	03	02	0	1014.5	0	0.3	79.0	74.1	82.1	3	3	1	4	0	0	34	3	1
10/25	18.6°N	104.7°W	0000	99	30	16	02	0	1010.7	1	0.7	80.2	77.4	81.1	1	1	1	5	0	0	34	3	2
10/25	17.0°N	106.2°W	0600	99	32	13	02	0	1012.9	2	0.7	80.0	77.1	78.8	1	1	1	4	0	0	33	3	1
10/25	16.4°N	106.5°W	1200	99	33	13	02	0	1011.9	3	0.5	78.9	75.0	79.4	3	2	1	4	6	0	32	3	2
10/25	15.0°N	106.5°W	1800	99	32	11	02	0	1013.2	1	0.7	79.0	75.1	79.1	3	3	1	4	0	0	34	4	2
10/26	14.5°N	106.0°W	0000	99	32	08	02	0	1010.6	6	0.3	81.0	75.2	81.1	3	3	1	4	0	0	33	3	1
10/26	13.3°N	106.4°W	0600	99	35	08	02	1	1012.0	0	0.2	79.0	74.2	81.0	4	4	1	4	0	0	34	X	2
10/26	12.8°N	106.8°W	1200	99	35	06	02	1	1010.4	5	0.7	78.9	74.1	80.8	4	4	1	4	0	0	33	3	1
10/26	12.0°N	107.1°W	1800	99	02	04	02	2	1011.8	0	0.0	83.7	75.6	82.0	2	2	1	5	0	0	07	4	1
10/27	10.7°N	107.5°W	0000	99	05	04	02	1	1009.8	3	0.5	82.0	74.7	82.5	5	2	1	4	4	2	34	3	2
10/27	09.8°N	107.8°W	0600	97	19	08	62	6	1012.5	1	0.9	76.9	74.9	81.9	8	8	4	4	X	X	34	3	2
10/27	08.9°N	107.2°W	1200	96	22	13	62	6	1010.7	5	0.3	75.0	74.0	79.0	8	8	5	3	X	X	16	4	2
10/27	08.0°N	108.4°W	1800	98	22	14	03	2	1012.8	0	0.0	78.1	73.4	79.0	7	7	4	3	0	0	18	5	3
10/28	07.3°N	108.8°W	0000	98	21	18	14	8	1010.5	3	0.3	75.8	73.1	78.8	8	6	4	3	2	X	20	3	3
10/28	09.8°N	109.1°W	0600	98	19	18	02	2	1013.3	4	0.0	78.1	72.5	78.0	8	2	2	3	1	X	18	3	3
10/28	06.0°N	109.4°W	1300	98	20	15	02	2	1011.9	1	0.7	76.9	72.8	79.0	7	2	1	4	6	0	17	3	3
10/28	05.4°N	109.6°W	1800	99	18	15	01	2	1014.1	0	0.9	77.5	71.0	78.9	4	3	1	4	2	0	15	4	3
10/29	05.2°N	109.5°W	0000	99	17	14	02	0	1010.5	6	1.4	75.6	69.8	77.9	2	1	1	5	2	0	17	3	3

Table 12.--Log of ship's weather observations recorded on U.S.W.B. Form 1210F in International Ship Weather Code (cont'd)

Date, 1955	Latitude	Longitude	Time, GCT	Visibility	Wind		Weather		Pressure			Temperature			Clouds						Waves		
					Direction	Speed, kt.	Present	Past	Bar. corr., mb.	Characteristic	Amt. change	Dry bulb, °F.	Wet bulb, °F.	Sea water, °F.	Total amount	Amount low	Type low	Height low	Type middle	Type high	Direction	Period	Height
10/29	04.5°N	109.6°W	0600	99	14	13	02	0	1013.7	1	1.0	75.2	69.5	78.0	2	1	1	4	6	0	17	3	2
10/29	03.7°N	109.8°W	1200	99	15	14	03	1	1011.4	6	0.9	74.5	68.0	77.0	6	5	4	4	6	0	15	3	2
10/29	03.0°N	110.0°W	1800	99	13	14	02	2	1013.6	0	0.0	77.3	68.5	76.9	6	6	5	5	0	0	12	3	2
10/30	02.4°N	110.5°W	0000	98	15	18	02	2	1010.8	6	0.7	72.0	65.9	76.4	8	8	5	5	X	X	16	2	3
10/30	02.0°N	110.6°W	0600	99	14	15	02	2	1014.7	1	1.4	72.0	66.0	75.8	7	7	5	4	0	0	15	3	3
10/30	01.1°N	111.0°W	1200	99	13	17	02	2	1012.2	5	0.3	70.4	65.3	74.1	6	5	5	4	2	0	15	3	3
10/30	00.5°N	111.3°W	1800	99	14	18	02	2	1015.1	0	0.0	70.6	65.0	71.8	8	8	5	4	X	X	13	3	3
10/31	00.0°	112.0°W	0000	99	13	11	02	1	1011.1	6	2.0	68.2	64.6	68.1	0	0	0	9	0	0	14	3	2
10/31	00.3°S	112.4°W	0600	99	09	11	02	0	1014.0	1	1.0	68.2	64.8	67.5	0	0	0	9	0	0	49	X	1
10/31	01.2°S	112.7°W	1200	99	09	08	03	1	1012.6	4	0.0	66.8	65.0	66.4	8	8	1	4	X	X	16	3	2
10/31	01.9°S	113.0°W	1900	99	09	07	02	2	1014.6	0	0.0	69.9	67.1	69.9	7	5	5	5	2	0	15	3	2
11/1	02.2°S	113.1°W	0000	99	10	12	01	0	1012.3	6	0.7	70.1	66.8	71.0	2	1	4	4	6	0	13	3	2
11/1	02.7°S	113.1°W	0600	99	09	14	03	1	1014.8	1	0.7	69.8	66.9	70.2	7	7	5	4	X	X	14	4	2
11/1	03.4°S	113.4°W	1200	98	10	14	25	8	1013.7	5	0.0	69.0	66.7	69.3	7	7	8	4	X	X	13	3	2
11/1	04.0°S	113.5°W	1800	99	12	16	01	2	1016.6	0	0.3	71.5	66.8	69.9	6	6	8	4	2	0	11	4	3
11/2	04.6°S	113.2°W	0000	99	11	17	02	2	1013.6	5	0.2	71.4	67.9	71.2	5	3	8	4	2	0	13	4	3
11/2	05.0°S	113.5°W	0600	99	10	17	03	1	1015.6	2	0.7	71.9	67.5	72.5	3	1	1	4	6	0	11	3	1
11/2	06.2°S	113.6°W	1200	99	09	17	02	2	1013.8	6	0.7	71.5	67.8	71.6	6	6	8	4	0	0	11	3	2
11/2	06.5°S	113.8°W	1800	98	10	16	03	2	1015.6	0	0.5	72.0	68.2	72.4	7	5	8	4	2	0	09	4	3
11/3	07.3°S	114.2°W	0000	98	11	17	01	1	1012.7	6	1.4	73.4	69.0	73.5	2	2	1	5	4	0	13	5	4
11/3	07.9°S	114.5°W	0600	98	12	16	03	1	1015.7	2	1.5	73.3	69.5	73.3	7	4	4	4	6	0	10	4	3
11/3	07.9°S	115.5°W	1200	99	14	21	01	1	1013.4	6	1.0	72.7	69.0	73.4	1	1	2	4	4	0	15	4	3
11/3	07.9°S	116.6°W	1800	99	13	17	02	1	1015.9	0	0.2	74.8	67.3	73.7	1	1	1	X	4	0	13	5	3
11/4	07.9°S	117.6°W	0000	99	13	18	02	0	1012.8	6	1.7	75.6	68.7	74.6	1	1	1	4	0	0	12	4	3
11/4	08.0°S	118.5°W	0600	99	13	19	02	0	1015.7	2	1.4	73.9	69.0	74.5	1	1	1	4	0	0	12	4	4
11/4	08.0°S	119.5°W	1200	99	12	19	02	0	1014.0	6	0.7	73.8	68.0	74.1	2	1	1	4	6	0	11	4	4
11/4	08.0°S	120.0°W	1800	99	11	18	02	0	1016.2	0	0.2	75.2	68.0	74.7	1	1	1	4	0	0	08	4	3
11/5	07.1°S	120.0°W	0000	99	11	18	02	0	1011.9	6	1.7	74.8	68.7	74.6	1	1	1	5	0	0	13	4	4
11/5	06.6°S	120.0°W	0600	99	13	20	03	0	1013.9	2	0.7	74.8	69.7	74.4	3	X	X	X	X	X	10	3	3
11/5	05.9°S	120.0°W	1200	98	13	17	03	1	1012.4	5	0.2	74.8	68.9	74.3	7	4	5	4	8	0	11	3	2

Table 12.--Log of ship's weather observations recorded on U.S.W.B. Form 1210F in International Ship Weather Code (cont'd)

Date, 1955	Latitude	Longitude	Time, GCT	Visibility	Wind		Weather		Pressure			Temperature			Clouds						Waves		
					Direction	Speed, kt.	Present	Past	Bar. corr., mb.	Characteristic	Amt. change	Dry bulb, °F.	Wet bulb, °F.	Sea water, °F.	Total amount	Amount low	Type low	Height low	Type middle	Type high	Direction	Period	Height
11/5	05.4°S	120.0°W	1800	97	11	19	16	8	1014.6	0	0.9	71.8	70.0	74.3	7	5	5	3	2	0	12	3	3
11/6	04.6°S	120.0°W	0000	99	11	18	02	1	1011.0	5	0.7	73.7	69.5	74.5	3	2	2	4	7	0	11	4	3
11/6	04.2°S	120.0°W	0600	99	12	17	03	0	1013.7	1	1.2	74.0	69.7	74.0	5	X	X	X	X	X	12	4	3
11/6	03.3°S	120.0°W	1200	99	11	16	01	1	1011.8	5	0.3	72.6	68.3	73.3	4	4	8	4	0	0	13	4	3
11/6	02.8°S	120.0°W	1800	99	11	15	03	0	1014.6	0	0.0	74.0	69.0	72.7	7	4	8	4	6	0	11	4	3
11/7	01.9°S	120.0°W	0000	99	10	14	02	0	1010.4	6	1.4	73.6	69.8	72.5	1	1	1	4	3	0	12	4	2
11/7	01.5°S	120.1°W	0600	99	15	13	02	0	1013.0	1	0.7	72.2	68.9	70.9	1	X	X	X	X	X	13	4	2
11/7	00.5°S	120.0°W	1200	98	12	11	02	2	1011.2	7	1.0	70.2	68.3	70.2	8	8	5	4	X	X	12	4	2
11/7	02.2°S	119.9°W	1800	99	13	13	01	1	1013.4	0	0.7	70.9	68.2	68.8	0	0	0	9	0	0	12	3	2
11/8	00.6°N	119.9°W	0000	99	13	11	01	0	1010.3	6	0.9	74.1	67.9	69.7	1	1	1	4	0	0	12	2	1
11/8	01.2°N	120.0°W	0600	99	11	11	01	2	1013.9	2	2.0	70.0	67.9	68.9	2	X	X	X	X	X	12	2	1
11/8	01.5°N	119.9°W	1200	99	15	07	02	0	1012.5	7	1.0	69.1	67.3	68.9	1	1	1	4	7	0	09	2	1
11/8	02.7°N	119.9°W	1800	99	15	13	02	1	1014.7	0	0.7	71.8	69.0	69.8	6	6	8	4	7	0	10	3	1
11/9	03.6°N	120.0°W	0000	99	17	10	03	1	1010.3	5	1.4	73.8	69.8	72.1	7	5	5	4	5	0	13	3	2
11/9	03.8°N	120.1°W	0600	99	15	12	01	1	1013.6	1	2.0	73.9	69.6	76.6	1	X	X	X	X	X	13	4	3
11/9	04.5°N	119.8°W	1800	99	16	15	02	2	1013.7	0	0.9	76.0	70.2	76.7	8	0	0	9	5	X	13	3	3
11/10	05.4°N	119.8°W	0000	98	15	12	02	2	1009.5	6	2.4	76.4	71.0	77.1	8	6	5	4	7	X	14	3	2
11/10	05.7°N	120.0°W	0600	98	16	16	02	2	1012.0	1	1.5	76.1	72.1	78.4	8	X	X	X	X	X	19	4	3
11/10	05.5°N	120.7°W	1200	98	17	18	02	2	1009.4	6	0.7	75.1	71.3	77.7	8	8	5	4	X	X	19	4	3
11/10	05.1°N	121.1°W	1800	99	16	18	01	2	1012.1	1	1.4	76.7	69.9	77.9	7	5	8	4	7	0	14	4	3
11/11	04.6°N	121.8°W	0000	99	17	18	02	2	1009.1	6	1.2	75.2	69.2	77.4	7	3	1	4	5	X	19	4	3
11/11	04.1°N	122.3°W	0600	99	16	16	02	2	1013.0	1	2.2	74.8	68.2	76.2	8	X	X	X	X	X	14	3	3
11/11	03.7°N	122.9°W	1200	99	16	17	02	2	1009.6	7	1.4	73.4	68.8	76.3	8	X	X	X	X	X	19	3	3
11/11	03.3°N	123.5°W	1800	99	15	20	02	2	1012.0	1	1.2	74.6	68.0	75.9	7	7	8	4	0	0	18	3	3
11/12	02.5°N	124.3°W	0000	99	14	12	02	0	1008.7	5	0.9	72.1	67.9	73.7	1	1	1	3	4	0	15	3	2
11/12	02.1°N	125.1°W	0600	99	10	09	02	0	1013.2	2	2.0	69.9	68.0	69.7	1	X	X	X	0	0	14	4	2
11/12	01.3°N	125.7°W	1200	99	11	12	03	0	1010.4	7	2.0	69.7	67.8	69.8	3	2	1	4	6	0	14	3	2
11/12	00.9°N	126.3°W	1800	99	10	14	01	1	1012.2	0	1.2	72.0	69.1	70.8	3	1	1	4	7	0	09	3	2
11/13	00.7°N	126.8°W	0000	99	08	15	02	1	1009.0	7	1.7	71.9	69.1	71.6	3	3	2	4	0	0	09	3	2
11/13	00.2°N	127.1°W	0600	99	10	10	02	0	1012.9	2	2.5	71.1	69.6	70.7	1	X	X	X	0	0	09	3	1

Table 12.--Log of ship's weather observations recorded on U.S.W.B. Form 1210F in International Ship Weather Code (cont'd)

Date, 1955	Latitude	Longitude	Time, GCT	Visibility	Wind		Weather		Pressure			Temperature			Clouds						Waves		
					Direction	Speed, kt.	Present	Past	Bar. corr., mb.	Characteristic	Amt. change	Dry bulb, °F.	Wet bulb, °F.	Sea water, °F.	Total amount	Amount low	Type low	Height low	Type middle	Type high	Direction	Period	Height
11/13	00.0°	127.5°W	1200	98	24	05	50	1	1010.3	7	1.7	70.5	69.3	69.8	7	X	X	X	X	X	49	X	1
11/13	00.5°S	128.3°W	1800	98	10	06	02	2	1012.9	0	0.5	71.2	69.2	70.4	8	8	8	5	X	X	10	4	1
11/14	01.0°S	129.0°W	0000	99	09	06	02	2	1010.0	7	1.7	71.3	69.1	70.0	7	3	1	4	6	0	12	4	1
11/14	01.4°S	129.3°W	0600	99	10	05	02	0	1012.9	2	2.7	70.8	69.9	70.1	0	0	0	9	0	0	12	4	1
11/14	01.7°S	129.8°W	1200	99	08	05	03	0	1011.5	6	1.2	71.1	69.9	72.0	3	X	X	X	X	X	49	X	0
11/14	02.0°S	130.6°W	1800	99	12	08	01	1	1013.1	2	0.9	72.1	70.1	70.6	1	1	5	5	0	0	13	4	2
11/15	01.7°S	131.2°W	0000	99	15	11	02	1	1009.5	7	2.0	76.0	71.8	71.7	1	1	1	4	4	0	19	3	2
11/15	01.2°S	131.7°W	0600	99	12	08	02	0	1012.9	2	1.5	72.0	70.0	71.3	1	X	X	X	0	0	19	4	2
11/15	00.7°S	132.2°W	1200	98	13	06	02	1	1010.1	7	2.0	72.9	70.2	72.5	7	7	X	X	X	X	49	X	1
11/15	00.1°S	132.9°W	1800	99	13	17	01	2	1013.1	1	1.0	76.0	71.7	75.2	6	6	8	5	0	0	12	3	2
11/16	00.5°N	133.6°W	0000	99	14	17	01	1	1009.1	7	2.0	78.4	72.7	76.1	1	1	1	4	5	0	19	3	2
11/16	01.1°N	134.2°W	0600	99	15	19	02	1	1010.6	2	1.4	75.4	71.2	75.6	1	X	X	X	0	0	16	3	3
11/16	01.5°N	135.7°W	1200	98	12	17	50	1	1009.6	7	1.2	75.3	71.7	75.0	8	X	X	X	X	X	49	X	2
11/16	02.0°N	135.5°W	1800	99	15	17	01	2	1011.3	1	0.9	75.2	72.0	75.1	4	4	2	4	7	0	12	4	3
11/17	02.1°N	136.2°W	0000	99	13	16	02	2	1007.9	7	2.0	77.1	72.9	75.5	8	4	3	4	5	X	12	4	3
11/17	02.8°N	136.9°W	0600	98	12	12	60	2	1011.4	2	2.2	74.0	71.9	74.0	6	X	X	X	X	X	12	4	3
11/17	03.4°N	137.3°W	1200	99	14	12	01	2	1009.3	7	2.4	75.0	72.4	76.2	4	X	X	X	X	X	49	X	2
11/17	04.6°N	138.1°W	1800	99	12	13	02	2	1012.1	0	1.7	75.9	72.5	77.0	7	6	8	4	7	0	07	4	3
11/18	05.2°N	138.8°W	0000	99	14	15	02	2	1008.3	7	2.2	80.0	73.5	79.6	4	3	1	4	4	0	12	4	3
11/18	05.6°N	139.5°W	0600	99	12	13	02	1	1011.0	1	1.7	77.5	72.2	80.0	4	X	X	X	X	X	14	4	3
11/18	05.1°N	139.2°W	1200	99	14	18	02	0	1008.5	6	2.4	75.0	72.2	79.1	4	X	X	X	X	X	14	4	3
11/18	04.3°N	139.1°W	1800	99	12	19	02	2	1011.1	0	2.2	77.8	73.8	78.8	8	8	8	4	X	X	13	4	3
11/19	04.0°N	139.2°W	0000	99	13	14	02	2	1008.0	7	1.4	77.0	72.9	77.2	7	6	8	4	7	0	13	3	3
11/19	03.5°N	139.2°W	0600	98	13	16	03	2	1010.6	2	0.9	76.0	71.9	76.1	8	X	X	X	X	X	12	3	3
11/19	02.9°N	139.1°W	1200	98	13	19	02	2	1008.9	6	1.4	75.0	72.0	76.0	8	X	X	X	X	X	13	4	3
11/19	02.5°N	139.2°W	1800	99	12	17	01	1	1010.9	1	1.9	75.9	71.0	74.9	2	1	2	4	7	0	13	4	3
11/20	01.8°N	139.8°W	0000	99	12	13	03	1	1008.5	7	1.4	74.9	71.2	74.8	7	4	8	4	7	0	13	4	3
11/20	01.2°N	139.3°W	0600	99	13	11	01	1	1010.0	1	0.9	73.5	70.2	73.1	1	X	X	X	0	0	13	4	3
11/20	00.9°N	139.5°W	1200	99	11	16	02	0	1008.8	7	0.7	72.9	69.3	72.9	1	1	5	4	0	0	13	4	3
11/20	00.0°	139.9°W	1800	99	10	16	02	1	1011.4	1	1.2	74.6	70.2	73.2	4	4	2	4	7	0	11	3	3

Table 12.--Log of ship's weather observations recorded on U.S.W.B. Form 1210F in International Ship Weather Code (cont'd)

Date, 1955	Latitude	Longitude	Time, GCT	Visibility	Wind		Weather		Pressure			Temperature			Clouds						Waves		
					Direction	Speed, kt.	Present	Past	Bar. corr., mb.	Characteristic	Amt. change	Dry bulb, °F.	Wet bulb, °F.	Sea water, °F.	Total amount	Amount low	Type low	Height low	Type middle	Type high	Direction	Period	Height
11/21	00.2°S	140.2°W	0000	99	12	15	02	0	1008.3	6	1.7	74.3	70.2	73.8	1	0	0	9	1	0	12	3	3
11/21	01.1°S	140.0°W	0600	99	10	15	03	1	1011.3	2	1.9	74.0	71.0	74.8	6	6	2	4	X	X	12	4	3
11/21	01.2°S	140.0°W	1200	98	10	19	03	1	1010.2	6	0.9	74.7	71.3	76.2	7	X	X	X	X	X	11	4	3
11/21	01.7°S	140.0°W	1800	99	10	18	02	2	1013.5	2	1.9	76.2	72.0	75.1	7	7	8	4	X	X	11	4	3
11/22	03.3°S	139.7°W	0000	99	10	14	02	1	1009.6	7	2.4	75.4	72.9	75.5	1	1	1	4	4	X	10	3	3
11/22	04.0°S	139.8°W	0600	99	09	16	02	0	1012.1	2	1.4	75.8	73.1	75.9	0	0	0	9	0	0	49	3	3
11/22	04.8°S	139.9°W	1200	99	09	18	02	0	1010.8	7	1.4	75.8	72.3	75.7	1	1	1	4	0	0	12	3	3
11/22	05.5°S	139.8°W	1800	97	10	19	01	1	1014.6	2	2.0	77.8	72.5	76.8	2	2	1	4	0	0	09	4	4
11/23	05.8°S	139.8°W	0000	99	09	19	03	0	1011.0	6	1.9	77.0	72.8	77.0	2	2	1	4	0	0	10	4	4
11/23	06.5°S	139.5°W	0600	99	10	17	02	1	1013.7	1	1.4	77.0	72.2	76.5	3	3	1	4	0	0	10	4	4
11/23	07.3°S	139.4°W	1200	99	11	22	02	1	1012.6	6	0.7	76.8	72.2	77.8	4	X	X	X	X	X	10	4	4
11/23	08.1°S	139.2°W	1800	98	11	17	02	1	1015.4	2	1.4	79.2	72.2	78.6	3	3	1	1	0	1	13	4	3
12/2	07.1°S	141.3°W	0000	99	07	15	02	0	1012.0	7	2.2	78.0	70.8	78.1	1	1	1	4	0	0	07	3	1
12/2	06.6°S	141.9°W	0600	99	08	12	02	0	1013.7	1	1.5	76.0	71.2	76.0	2	2	1	4	0	0	07	3	3
12/2	05.8°S	142.5°W	1200	99	07	14	01	0	1012.5	7	1.2	76.0	71.1	76.0	2	2	2	4	0	0	07	3	2
12/2	05.5°S	142.8°W	1800	99	07	16	02	0	1015.1	1	1.4	77.0	68.9	77.4	2	2	1	4	0	0	08	3	2
12/3	05.0°S	143.2°W	0000	99	08	12	03	1	1012.6	7	1.4	77.4	70.4	78.0	5	5	1	4	0	0	07	3	2
12/3	04.3°S	143.8°W	0600	99	06	15	02	0	1013.9	2	1.7	76.9	70.1	77.5	3	3	X	X	X	0	07	3	2
12/3	03.8°S	144.2°W	1200	99	07	16	02	1	1012.5	7	1.4	76.3	69.4	76.3	2	2	2	4	0	0	07	3	2
12/3	03.0°S	144.9°W	1800	99	08	19	03	1	1014.0	1	1.2	76.1	69.2	76.4	6	6	8	4	7	0	08	3	3
12/4	02.4°S	145.3°W	0000	99	08	19	01	1	1011.2	7	1.4	76.4	70.3	77.0	3	3	1	4	0	0	08	3	3
12/4	01.7°S	145.9°W	0600	99	08	18	02	1	1013.3	1	1.9	76.0	70.5	75.8	3	X	X	X	X	X	08	3	3
12/4	01.0°S	146.5°W	1200	99	09	17	01	1	1011.7	7	1.2	75.6	70.2	74.2	1	1	1	4	0	0	08	3	3
12/4	00.4°S	146.9°W	1800	99	08	15	01	1	1014.6	2	1.7	74.8	70.1	74.0	2	2	8	4	0	0	08	3	3
12/5	00.2°S	147.1°W	0000	99	09	19	01	0	1010.9	7	2.2	74.7	70.2	74.9	1	1	8	4	0	0	08	3	3
12/5	00.5°N	147.8°W	0600	99	10	16	02	0	1013.3	2	1.7	74.8	69.9	74.8	1	X	X	X	X	X	09	3	3
12/5	02.0°N	147.9°W	1200	99	09	17	03	1	1012.1	7	1.2	74.3	70.7	74.2	5	1	2	4	5	0	09	3	3
12/5	01.1°N	148.6°W	1800	99	10	18	02	1	1014.3	1	1.5	75.2	69.8	76.3	4	4	8	4	0	0	10	4	3
12/6	01.5°N	148.9°W	0000	98	11	18	50	1	1012.6	7	1.4	75.6	71.0	76.7	7	4	4	4	6	0	12	3	3
12/6	01.1°N	149.9°W	0600	99	11	15	01	1	1013.4	1	0.9	74.8	70.0	75.7	1	X	X	X	X	X	12	3	3

Table 12.--Log of ship's weather observations recorded on U.S.W.B. Form 1210F in International Ship Weather Code (cont'd)

Date, 1955	Latitude	Longitude	Time, GCT	Visibility	Wind		Weather		Pressure			Temperature			Clouds						Waves		
					Direction	Speed, kt.	Present	Past	Bar. corr., mb.	Characteristic	Amt. change	Dry bulb, °F.	Wet bulb, °F.	Sea water, °F.	Total amount	Amount low	Type low	Height low	Type middle	Type high	Direction	Period	Height
12/6	00.8°N	150.5°W	1200	99	11	15	03	0	1012.1	7	1.3	74.0	70.0	75.3	3	3	2	4	0	0	12	3	2
12/6	00.3°N	151.6°W	1800	99	10	18	02	0	1014.1	1	1.5	75.1	70.2	74.3	3	3	2	4	0	1	10	3	3
12/7	00.2°N	152.0°W	0000	99	08	16	02	0	1011.0	7	2.4	77.0	71.2	75.5	1	1	1	4	4	0	10	3	2
12/7	00.2°N	153.0°W	0600	99	09	15	02	1	1012.6	1	1.7	74.8	70.9	75.1	3	3	X	X	X	X	10	3	3
12/7	00.4°S	153.4°W	1200	99	08	12	03	1	1011.5	7	1.2	74.4	70.8	74.8	7	1	1	4	1	0	10	3	2
12/7	00.8°S	154.3°W	1800	98	06	14	15	2	1013.1	1	1.5	75.1	70.8	75.7	7	7	8	4	0	0	06	3	2
12/8	01.1°S	154.7°W	0000	99	09	14	01	1	1009.6	7	2.4	76.9	72.3	76.4	1	1	1	4	6	0	10	3	2
12/8	02.0°S	155.1°W	0600	99	09	18	02	0	1010.7	1	1.7	75.8	70.9	75.7	2	X	X	X	X	X	10	3	3
12/8	01.6°S	155.4°W	1200	99	10	13	02	0	1010.5	7	1.2	75.8	71.7	75.6	3	2	1	4	6	0	09	3	2
12/8	00.8°S	155.9°W	1800	99	10	16	02	0	1012.1	1	2.0	76.8	69.8	75.4	4	2	2	4	7	0	10	3	3
12/9	00.2°S	156.2°W	0000	99	09	20	02	1	1009.0	7	2.5	76.1	72.0	75.9	7	4	4	4	6	0	09	3	3
12/9	00.4°N	156.7°W	0600	99	10	18	02	0	1010.2	2	1.7	76.1	71.0	77.0	1	1	1	4	0	0	10	3	3
12/9	01.3°N	157.2°W	1200	99	09	17	02	0	1010.0	7	1.0	76.5	71.0	76.8	1	1	1	4	0	0	08	3	2
12/9	02.3°N	157.8°W	1800	99	11	15	02	2	1012.6	2	1.4	77.7	72.8	77.0	7	5	8	4	7	0	11	3	3
12/11	02.6°N	158.2°W	0000	99	11	19	51	3	1010.6	7	1.7	78.7	73.8	78.5	7	4	4	4	6	1	09	4	3
12/11	03.3°N	159.0°W	0600	99	13	16	01	2	1012.5	2	1.9	79.1	75.0	79.0	5	5	8	4	0	0	10	4	3
12/11	03.6°N	159.4°W	1200	99	12	17	50	3	1011.6	7	1.5	78.0	75.0	78.2	4	4	4	4	0	0	10	3	2
12/11	04.0°N	160.2°W	1800	99	11	15	02	2	1013.3	2	1.9	78.1	74.6	76.8	3	3	8	4	7	0	10	3	3
12/12	04.5°N	160.6°W	0000	99	09	08	03	0	1010.7	7	2.0	79.0	75.6	77.8	7	2	1	4	6	0	10	3	3
12/12	05.1°N	161.3°W	0600	99	11	10	02	0	1011.5	1	1.4	78.1	75.9	79.0	1	1	X	X	X	X	10	3	2
12/12	05.4°N	161.6°W	1200	98	11	16	03	1	1010.0	7	2.0	80.0	76.0	81.3	7	4	4	4	1	0	49	X	2
12/12	05.9°N	162.1°W	1800	98	09	15	16	2	1010.5	2	1.0	79.4	76.0	80.6	6	6	8	4	X	X	49	X	3
12/13	06.3°N	162.1°W	0000	97	07	17	14	5	1009.2	7	1.7	78.0	75.7	80.3	8	8	7	3	X	X	04	3	4
12/13	07.3°N	162.0°W	0600	98	05	22	02	8	1010.5	2	1.9	77.9	74.6	81.0	8	8	8	4	X	X	06	3	4
12/13	07.8°N	161.9°W	1200	98	05	24	60	6	1008.1	7	1.9	79.0	74.3	80.7	8	X	X	X	X	X	04	3	4
12/13	08.4°N	161.5°W	1800	99	05	18	01	8	1010.2	2	2.0	79.0	72.8	80.6	7	4	8	4	7	0	05	3	4
12/14	09.4°N	161.3°W	0000	98	06	16	01	2	1008.8	7	1.7	81.2	72.4	80.3	5	5	1	5	7	0	06	4	4
12/14	10.3°N	161.0°W	0600	99	08	16	02	1	1009.9	1	1.5	78.5	70.1	79.0	1	1	1	5	0	0	07	3	3
12/14	11.1°N	160.9°W	1200	98	06	19	02	0	1010.1	8	1.0	77.0	70.8	78.1	1	1	1	5	0	0	05	4	4
12/14	12.0°N	160.6°W	1800	99	09	24	02	0	1010.3	2	0.7	77.9	72.0	78.0	2	2	1	4	0	0	05	4	3

Table 12.--Log of ship's weather observations recorded on U.S.W.B. Form 1210F in International Ship Weather Code (cont'd)

Date, 1955	Latitude	Longitude	Time, GCT	Visibility	Wind		Weather		Pressure			Temperature			Clouds						Waves		
					Direction	Speed, kt.	Present	Past	Bar. corr., mb.	Characteristic	Amt. change	Dry bulb, °F.	Wet bulb, °F.	Sea water, °F.	Total amount	Amount low	Type low	Height low	Type middle	Type high	Direction	Period	Height
12/15	12.6°N	160.7°W	0000	99	08	20	02	0	1010.3	6	1.4	79.7	72.0	78.1	2	2	1	4	0	1	06	3	4
12/15	13.3°N	160.6°W	0600	99	08	22	02	0	1012.0	2	1.4	77.1	71.0	77.5	1	1	1	4	0	0	06	3	3
12/15	13.9°N	160.5°W	1200	99	09	22	02	0	1011.8	7	1.4	76.1	70.0	77.5	1	1	X	X	X	X	08	3	3
12/15	14.6°N	160.4°W	1800	98	08	15	01	1	1013.5	2	1.7	75.7	71.7	76.8	3	2	2	4	7	0	06	4	3
12/16	15.9°N	160.1°W	0000	94	12	22	80	8	1012.6	7	2.0	73.1	71.2	76.7	8	8	7	2	X	X	11	4	3
12/16	16.8°N	160.0°W	0600	97	09	24	01	8	1014.2	2	2.0	76.0	71.7	76.6	2	2	8	4	0	0	11	4	4
12/16	17.6°N	159.8°W	1200	99	08	18	02	0	1015.7	4	0.0	74.9	70.1	77.0	2	2	2	4	0	0	08	3	3
12/16	18.5°N	159.7°W	1800	99	08	15	02	0	1016.3	2	1.4	75.5	69.1	77.1	2	2	1	4	0	1	10	4	2
12/17	19.5°N	159.4°W	0000	99	12	13	01	1	1014.2	7	2.4	75.3	69.3	76.0	1	1	1	4	4	1	10	4	2
12/17	20.3°N	159.3°W	0600	99	10	08	02	1	1015.0	2	1.4	73.8	67.6	75.4	1	1	1	4	0	0	10	4	2